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ABSTRACT

A study of the aging work force and vocational education trends in Wisconsin was conducted using the following methods: literature review, analysis of a sample of 10% of Wisconsin technical college student records for 1986-1990, a focus group discussion with 5 employers and one with 10 adult students over 40, and a telephone survey of 100 employers and one of 200 students over 40 at Fox Valley Technical College. Among the conclusions are the following: (1) progress is hampered by the multiple meanings of such terms as "aging work force," "older worker," "lifelong learning," and "training"; (2) skills obsolescence is the greatest single issue, the scope of which is difficult to determine; (3) older adults need better information about the importance of continuing education to successful employment; (4) programs for disadvantaged mature workers should be prevention oriented rather than crisis oriented; (5) employers may not be the best judges of current and future skill levels; (6) technical colleges need a better understanding of the adult clientele; (7) age discrimination still exists in employment and education; and (8) continued training and skill upgrading are needed by all employees, necessitating a more formal approach to employee training. (The report includes the following: 41 charts, 16 tables, 27 references, 3 appendices containing employer and adult student survey forms and focus group questions, and an annotated bibliography of 14 items.) (NLA)

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A Research Study Conducted By

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Trends in Vocational Education

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June 1991

Table of Contents

Executive Summary 2

Chapter 1. Introduction 6

Overview of Project Objectives 7

Limitations of the Study 7

Specific Project Activities and Content of This Report 8

Chapter 2. Topical Literature and Insights 11

Work Force Demographics 11

Literature Review: Critical Issues of an Aging Work Force 13

Trends and Insights 23

Chapter 3. Wisconsin Technical College Enrollment Data Analysis: 1986-1990 . . 30

Total Enrollment Trends By Age 30

Program Student Enrollment By Age 33

Occupational Adult Student Enrollments By Age 39

Chapter 4. Focus Group Observations 47

Employers' Focus Group 47

Adult Student Focus Group 52

Summary Comments 58

Chapter 5. Analysis of Surveys 60

Survey of Employers 60

Summary of Employer Survey 75

Survey of Adult Students 77

Chapter 6. Summary and Conclusions 93

Conclusions 93

Recommendations 94

References 97

Appendices 99

A. Employer Survey Form

B. Adult Student Survey Form

C. Focus Group Questions

Selected Annotated Bibliography 104

List of Charts and Tables

Chart 1 Wisconsin's Labor Force in the Year 2000 6
Chart 2 Demography of Aging 11
Chart 3 Projected U.S. Population Growth by Age Group 1986-2000 12
Chart 4 Terminology Interrelationships 28
Chart 5 Total Enrollment Trend by Age 1986-90 (Program Students) 31
Percentages
Chart 6 Total Enrollment Trend by Age 1986-90 (Occupational Adult) 31
Percentages
Chart 7 Total Enrollment Trend By Age 1986-90 (Program Students) 32
Number
Chart 8 Total Enrollment Trend By Age 1986-90 (Occupational Adult) 32
Number
Chart 9 1986-87 Analysis by Student Age 34
Chart 10 1986-87 Analysis by Student Age (Percentage) 34
Chart 11 1987-88 Analysis by Student Age 35
Chart 12 1987-88 Analysis by Student Age (Percentage) 35
Chart 13 1988-89 Analysis by Student Age 36
Chart 14 1988-89 Analysis by Student Age (Percentage) 37
Chart 15 1989-90 Analysis by Student Age 38
Chart 16 1989-90 Analysis by Student Age (Percentage) 38
Chart 17 1986-87 Analysis by Student Age 40
Chart 18 1986-87 Analysis by Student Age (Percentage) 40
Chart 19 1987-88 Analysis by Student Age 41
Chart 20 1987-88 Analysis by Student Age (Percentage) 42
Chart 21 1988-89 Analysis by Student Age 43
Chart 22 1988-89 Analysis by Student Age (Percentage) 43
Chart 23 1989-90 Analysis by Student Age 44
Chart 24 1989-90 Analysis by Student Age (Percentage) 44
Chart 25 Type of Companies Responding to Study 62
Chart 26 Size of Work Force Over Next Five Years 63
Chart 27 Average Age of Work Force 64
Chart 28 Average Age of Work Force Over Next Five Years 65
Chart 29 Company Sponsorship of Employee Training 67
Chart 30 Barriers to Training for Employees Over Age 40 68
Chart 31 How Employers Have Used Technical Colleges for Training 70

Chart 32 Adult Student Survey Age Profile By Percent 78
Chart 33 Employment Profile of Adult Students 79
Chart 34 Type of Job: Employed Adult Students 80
Chart 35 Education Objectives for Adult Students 81
Chart 36 Did Life Change Trigger Enrollment of Adults? 82
Chart 37 Older Adults Note Few Barriers to Technical Education 83
Chart 38 Situational and Dispositional Barriers 84
Chart 39 Institutions Present Few Barriers for Adults 86
Chart 40 Effective Methods to Reach Older Students 88
Chart 41 Employer Interest in Work Force Training 90

Table 1 Percentage of Work Force Over Age 40 64
Table 2 Difficulty in Motivating Employees to Participate in Training/Education 65
Table 3 Difficulty in Motivating Employees Over Age 40 to Participate in Training/Education 66
Table 4 Factors that Prevent Employees From Participating in Training/Education 66
Table 5 Training Needs of Employees Over Age 40 69
Table 6 Comparison of Employee Training Needs Over and Under Age 40 69
Table 7 Service: Providing Multiple Copies of Technical College Offerings 71
Table 8 Service: Open House at Technical College to Provide Training Information 71
Table 9 Service: Meeting with Technical College Staff On-Site at the Company 72
Table 10 Service: Providing a Directory of Who to Call at the Technical College for Training Services 72
Table 11 Service: On-Site Educational Information Center 73
Table 12 Service: On-Site Registration for Courses Convenient to Employees 73
Table 13 Service: One-to-One Educational Information to Employees On-Site 74
Table 14 Service: Offering Courses at the Work Site 74
Table 15 Situational and Dispositional Barriers 84
Table 16 Institutional Barriers 86

EXECUTIVE SUMMARY

Executive Summary

> *The fact is that education has become a necessity, an absolute requirement, if workers are to perform adequately, find fulfillment in their lives, and contribute to our advancement as a country. Through technology and communications, a new world is emerging that continually calls for training. New tools are radically changing our work and lives, a new worker is appearing, and a much more diverse work force is taking shape. Each and all are factors in the growth of training for adults in the work force. If we are to meet the challenges facing the United States in the world economy, the knowledge of our workers will be a prime element.*
>
> The Carnegie Foundation*

The significance of the aging or maturing work force phenomenon is that it is the first time in the history of our nation that the work force is not "greening." Historically, the greening work force, or that with a median age of twenty-something, brought both the brawn and the brains to the work force. The change agents and innovations generally were thought to emanate from the "greener" segment of the work force who had closer proximity to the education establishment. It follows that the "grayer" segment of the work force is perceived as being a greater distance from the education establishment in terms of current experience.

Most of the stereotypes and stigma associated with the older worker stems from this traditional assumption regarding the role of training and education in the work life of an individual. The suggestion of an "aging work force" exaggerates the preconceived idea of the problematic, crisis-centered older worker definition multiplied by the numbers in the vast middle aging baby boom generation. The degree to which the future aging work force presents a crisis situation in our economy is directly related to the role which education and training plays in the work life of the labor force participants.

In essence, involvement in education and training activity can be viewed as preventive if participation occurs as an employee is aging and as crisis/problematic if participation is delayed until older age is achieved. In addition, older age education participation can be viewed as a performance enhancer or developmental activity if learning has, in fact, been a lifelong activity. These choices are not perceived in such crystal clear terms by many employees or even employers. Many people behave as if a high school diploma plus over 20 years on-the-job experience is enough to insure job security. Unfortunately, workers in Wisconsin and around the country are finding out that there are no such guarantees. Formulas for education and employment which have produced generations of satisfying lifestyles for the vast ranges of the middle class are being challenged by a convergence of economic and demographic factors.

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* Eurich, Nell P., "Prologue: The Challenge of Change," The Learning Industry: Education for Adult Workers, The Carnegie Foundation for the Advancement of Teaching, 1990.

Wisconsin firms must be globally competitive to survive. Productivity demands have recently forced some companies to export low skill jobs to third world countries which displaces middle-aged Wisconsin workers who may have been earning $12 per hour or more. Jobs that would garner this middle-aged worker the same pay probably demand higher skills in a workplace that is changing. Global competition may not mean exporting low skill jobs for some firms but may mean advanced technology replaces repetitive job functions. As technology replaces some human workplace functions, those workers are free to perform at higher levels. Of course, this means the skill level of the worker must follow.

Wisconsin is no stranger to economic downturns and dislocated workers. But the layoffs in recent years have been localized or isolated. Permanently dislocated workers are often absorbed into other jobs or other industries within the state. The future may hold a broader impact for worker displacement as the factors of uncertain economic shifts create a situation where more mainstream middle-income, middle-aged Wisconsin workers are vulnerable to job and skill obsolescence. Employers and economists try hard to predict these shifts but often the lead time is too short to adequately upskill workers..

Technical colleges are a logical local agent for addressing these issues as a resource of vocational education for the work force. Wisconsin colleges can be proactive in their economic development role by monitoring the aging work force impact and informing local constituents. This study indicates that employers are not commonly aware of these issues especially small businesses. Employers often feel that their adult work force knows how to go about getting training information from the technical college; our experience frequently says the contrary. Some employers pay for nonmandatory technical college courses as an employee benefit; employees very often do not enroll unless the training is mandatory because they do not perceive that they need it. Adults who enroll in technical college instinctively know that their job security and future employability depend on training; generally this message did not come from their employer. Employers appreciate the fact that technical colleges are there when a situation triggers a training crisis. This reactionary relationship minimizes the long-range planning capability of the technical college and the optimal effectiveness of the training.

Employers are not alone in waiting for "triggers" to take action. Program grants have triggered technical college services to adults whose socioeconomic problems have triggered training needs. These adults are often perceived to be the typical technical college adult students. To the contrary, adult students in this study were not triggered by either personal, financial, or employment problems to enroll in school but their own desire for additional training. Technical colleges may project a "we're here if you need us" attitude to adults in the work force. It appears that our adult customers respond to training more in terms of their perceived dreams then their tangible needs.

Older students are a significant portion of our student population. Roughly 25 percent of technical college program enrollees and 50 percent of occupational trainees are people age 40 and over. Those figures may be surprising to some and common to others but the important part is current and potential customer awareness. Because of the aging work force, both of these figures have potential to grow. Technical college marketing, recruitment, student services, and programming will benefit from knowing their adult consumer.

Technical colleges are obviously familiar with serving the education and training needs of the older segment of the work force. The fact that the work force is aging means that time is of the essence in understanding what we already know in order to be less fragmented and more useful to all. It is equally important to identify gaps in knowledge or service delivery ideas that fit with the past notion of the "returning adult student" or "older worker" but is not broad enough to systematically respond to the opportunities presented by an aging work force.

This report is intended to assist Wisconsin technical colleges in having a base of knowledge to examine their own systems. Replications of the surveys may be useful to confirm or supplement the analysis in the report. A college may expedite this process by using surveys to structure focus groups which require less time and resources and provide excellent results. Finally, this report is just a beginning. It requires additional state-wide forums to continue the advancement of knowledge on Wisconsin's aging work force and the changing trends in vocational education.

> *"Circumstances will vary widely even within companies. Managers need to analyze their operations businesses by business and plant by plant to see if--and how--they'll be affected. There's no point in cranking up to deal with changes that aren't there. For example, managers in plants in the Midwest probably won't need to concern themselves with the rise in the number of Hispanic immigrants as much as managers in California, Arizona, and Florida. There, Hispanic immigration has been and will continue to be--the heaviest. On the other hand, Midwestern managers will be affected more than their counterparts in the Sunbelt by an aging workforce."**

William B. Johnston
(author of Workforce 2000)
The Hudson Institute

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*See references: (W. Miller, 1991)

INTRODUCTION

1. Introduction

America's work force is aging. In the next few decades, the number of older workers in our work force will be greater than at any other time in our history. This, of course, is due to the vast number of "baby boomers" (76 million individuals born between 1946 and 1964) that are moving through the work/life cycle. This phenomenon will have significant implications for employers, workers and our economy as a whole.

Some futurists are even referring to this as an "age wave" that will soon dramatically impact our work force with the same driving force that this generation has had on every other aspect of American society. Our culture will be moving from one of being youth-oriented to a nation of significant power in numbers within the older generation. As this adult population ages, many of our public institutions and economic systems will need to change to meet the needs and demands of this group. Attitudes toward mature workers will also need to change as they become a significant part of the labor pool. A study of the major components of the changes created by an aging work force is warranted to effectively plan for the future.

The workers of the future will be older, have life and career plans different from those of past generations and will require a lifelong process of education and training to maintain productivity and relevant work skills. In fact, 70 percent of Wisconsin's workers of the year 2000 are currently in the work force and already a shortage of skilled technical workers is emerging (see Chart 1).

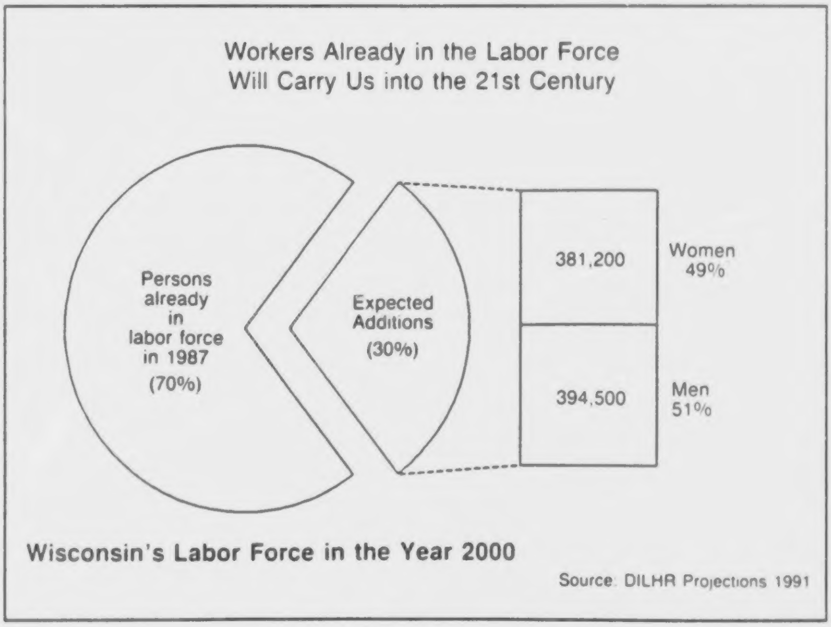


Chart 1 - Wisconsin's Labor Force in the Year 2000

The aging demographic landscape forming over the next 10-20 years will significantly impact virtually every aspect of American society. One major impact will be on the age composition of the work force. When dramatic shifts, changes or needs occur in the work force, educational systems are also affected, but in the past have typically involved reactive responses.

Age demographics are not speculative, but rather very predictable in forecasting the make-up of the society, work force and schools in the future. This study takes a focused look at this demographic trend and its impact on employment. Educational systems, especially post-secondary institutions, will need to address the new era of the adult if they are to effectively train, retrain and upgrade skills for employment.

The Wisconsin Vocational, Technical and Adult Education System (VTAE) is an educational system with a mission to serve the citizens of the state as well as the business and industry upon which the local economy depends. This study was conducted to enable the technical colleges in Wisconsin to develop a proactive response and plan systems changes to address the educational needs of tomorrow's work force.

Overview of Project Objectives

This research study of the aging work force and trends in vocational education encompassed five distinct activities. The overall of objective of the study was to establish a "state of the issue" information report based on national and state literary publications, technical college enrollment data, and actual observations from employers and older students.

A grant was awarded to Fox Valley Technical College located in Appleton, Wisconsin, by the Wisconsin Board of Vocational, Technical, and Adult Education under the research category for the 1990-91 Vocational Education Act funding. The study is intended to be used as a foundation for other technical colleges in the planning of training resources for the aging work force. The survey tools may be replicated in full or modified to meet the research needs of other technical college districts.

Limitations of the Study

The following points are recognized as limitations to this study:

1. The surveys in this study are representative samples of Wisconsin employers and older adult students. Results may vary in specific regions of the state as the profiles of employers and students differ significantly from the northeastern Wisconsin region.
2. Due to federal legislation on age discrimination in the workplace, employer responses regarding differences in needs of or opportunities for older versus younger workers may have been skewed.
3. The telephone survey methodology may have encouraged responses that were quick, not well thought through or misunderstood. This methodology also did not allow the employer respondent to confer with others in the organization, therefore the responses represent one individual's perspective on the issue.

4. The validity and reliability of the survey instruments were not formally investigated, although they were reviewed by research professionals and pilot-tested.

Definition of Terms

Older worker - Federal antidiscrimination law uses age 40 as the dividing line between younger and older workers; the Bureau of Labor Statistics considers an older worker one aged 55 or above. For the purpose of this study, the older worker will be defined using the age 40 and older designation.

The term "older worker" is usually associated with some aspect of the employment dilemma faced by unemployed and under employed people age 55 and over. A plethora of literature exists on this topic ranging from an analysis of government programs for seniors to managing the older employee to the virtues of hiring older workers to meet labor shortage situations. The older worker target group is generally viewed from the problematic or crisis perspective meaning that the issue is to identify and meet socioeconomic needs. This target group is not the exclusive focus of this study although the 55 and over age group is a component of the aging work force.

Aging work force - The "aging work force" term is actually shorthand for the aging of the work force. Or more accurately the "middle aging of the work force" (Work Force 2000, p. 81). This demographic phenomenon is caused by the maturing of the baby boom generation which influences the increase of the median age of the entire population to about age 40 in the year 2000. Although contrary to the general assumption, the oldest age segments of the labor force are actually growing slower than others in recent years.

Lifelong learning - Lifelong learning is a popular term which is used universally with multiple meanings (Cross, 1988, pp. 255-263). Lifelong learning refers to a description of classes for adults in later life to a term for general continuing adult education to corrective learning which addresses the shortcomings of the education system. Cross (1988) observes that "lifelong learning" is variously described as a slogan, a process, a set of activities, a conceptual framework, a rallying cry, and a philosophy of education" (p. 253). The term "lifelong education" may more clearly focus on formal work-related continuing education that is the key issue of an aging work force.

Specific Project Activities and Content of This Report

The initial and ongoing activity of this study was to conduct a literature review on aging work force issues related to training, retraining, and management education. As part of this research, contacts were made with state and national organizations affiliated with the topics of aging, employment/labor, and adult education. It is important to note that this issue, which essentially translates into that of educating workers over age 40 for the competitive challenges of the future workplace, is a specialized cross-section of research. Traditional service providers in the general subject areas were actually more interested in the results of this study than able to contribute new information. A network of interested state practitioners on the fringes of the issue is a logical outcome of this project rather than a network of those directly involved.

Chapter 2 provides a comprehensive review of the typical literature and insights including a discussion of work force demographics. Critical issues of an aging work force are presented as an overview of the current publications on the multiple dimensions of the topic. Perspectives on the issues of barriers to adult education and motivators for older students are discussed in the context of unique past and future frame of reference. Selected studies are included in the section on "Trends and Insights" due to their specific impact on state and national directions. Two national conferences were attended as part of this activity. The most recent (June 1991) was a small working conference on "The Role of Higher Education in Employment Training for Older Adults" sponsored by the University of Massachusetts-Boston which proved to be the only organized national informational resource available on the topic. Conference highlights are presented as relevant to the issue.

Chapter 3 summarizes the enrollment trends observed in a sampling of Wisconsin technical college students' records from 1986-90. The purpose of this activity was to determine any specific program areas or courses which attract older students (age 40 up) compared to students under age 40. The data sample was randomly selected from the state student records of all sixteen technical college districts for the four-year period. Program and occupational adult enrollments were analyzed separately by age group for comparison purposes. Specific patterns or trends are outlined as distinguished by the age of the student group.

Chapter 4 provides detailed reports of two focus groups conducted as a key component of this project. One group involved five employers primarily from the human resource departments to respond to questions on age issues and training practices in their workplace. The second focus group involved ten adult students age 40 and over who shared their perspectives on being older students, any barriers which prevent access to education, and ideas to improve service. The focus group activity provided the foundation for the development of surveys for each population.

Chapter 5 is an in-depth review of two telephone surveys conducted for this research project. The survey of employers involved 100 employers in northeastern Wisconsin with an equal representation of small, medium, and large firms based on the size of their work force. A survey of 200 adult students age 40 and over was conducted with students enrolled at Fox Valley Technical College within the past two years (1988-90). The survey was equally divided between program and nonprogram (occupational adult courses) students.

Finally, Chapter 6 concludes this research study with summary statements and recommendations for future directions.

This report will be distributed to all technical college district directors and to all individuals and groups contacted throughout the study. In addition, a presentation will be made to the Adult Continuing Education/Economic Development Subcommittee of the District Director's Association which is composed of representatives from all Wisconsin technical colleges.

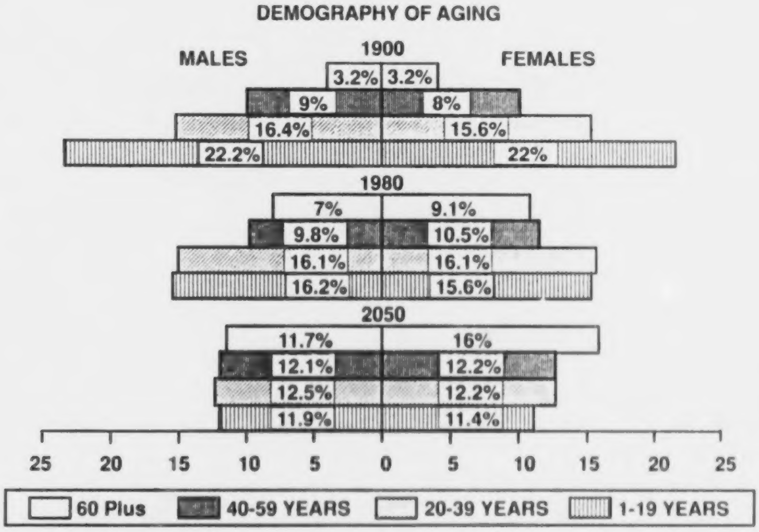
TOPICAL LITERATURE AND INSIGHTS

2. Topical Literature and Insights

This literature review will assess the changing work force composition, the need for skilled older workers, and will identify older worker stereotypes and the relevant skill needs of older workers. Additionally, by way of response systems, the review will cover employer preparation and responsiveness, and the role of education and training.

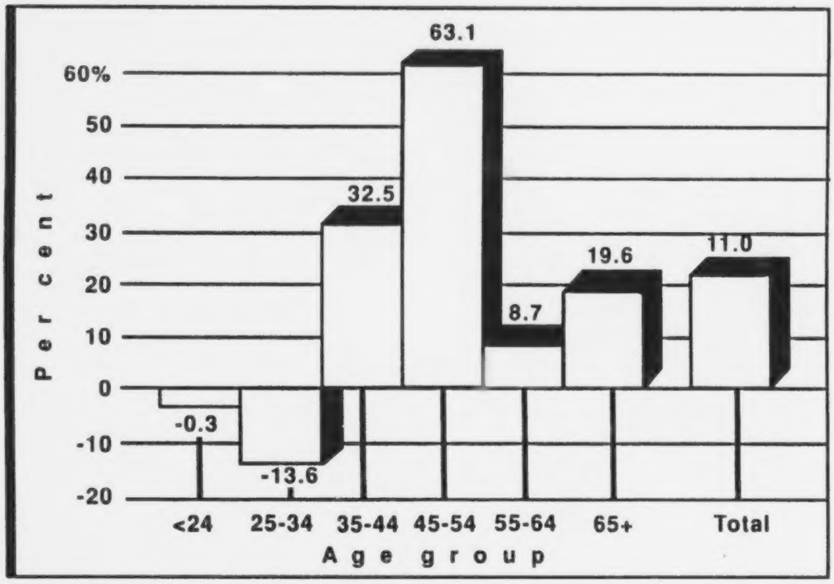
Work Force Demographics

Unlike other long-term economic forecasts, population projections (size and age distribution) can be made fairly accurately. These projections give us some idea of what our work force will consist of in the next 30 years. Two major periods of extreme birth rates will impact this ensuing labor force. The first was the "baby boom" era (1946-1964) producing huge numbers of people now in their 30s and 40s. The second period was the "birth dearth" that occurred between 1972 and 1978 which saw 800,000 fewer births per year than during the "baby boom" years. These "birth dearth" babies are now teenagers and will represent a significant decline in the entry-level labor pool in the next 10 years (Chart 2 - Demography of Aging). The Projected U.S. Population Growth by Age Group 1986-2000 (Chart 3) graphically shows the huge increases in the middle age groups during the next decade.



NOTE: Projections are middle series.
SOURCE: U.S. Bureau of the Census, Decennial Censuses of Population, 1900-1980 and Projections of the Population of the United States; 1982 to 2050, Current Population Reports, Series P-25, No. 922, October, 1982.

Chart 2 - Demography of Aging



Source: Commerce Department

Chart 3 - Projected U.S. Population Growth by Age Group 1986-2000

Reprinted from: AARP, Working Age, Vol. 5, No. 2, Sept./Oct. 1989.

The declining number of young people is making it increasingly difficult for many employers to hire qualified entry-level workers and fill part-time job openings. These jobs have been traditionally filled by the 16-24 year old age group. Retailers are being particularly hard hit by the shortfall in part-time workers, as one-third of all retail workers work part-time (Crone, 1990). Compounding the shear reduction in the number of 16-24 year olds, the National Association of Manufacturers president, Jerry Jasinowski, indicates that we have a "fundamental mismatch" between jobs and workers. He points out that each year, 700,000 young people drop out of high school and that most 17-year-olds cannot summarize a newspaper article, write a good job request letter, solve real-life math problems or follow a bus schedule (Eskey, 1990).

According to the U.S. Department of Labor and Hudson Institute statistics, white males, long considered the "mainstay of the economy," make up 47 percent of the current work force. However, they will account for only 15 percent of new entrants to the work force between 1985 and 2000. The bulk of the pool of new entrants will be white women, blacks and immigrants. Child care is an issue that will continue to become more urgent for employers and educators as women with children under age six comprise the fastest growing segment of the work force. To maximize the human capital represented by minorities and immigrants, increased education and investment in training will need to occur. Skill levels of this major pool of new entrants to the labor pool need to be raised for productive employment (Davenport, 1989).

During the next 10 years, the dramatic decline in numbers of young workers and the increasing availability of older workers will shift the focus toward a middle-aged and older work force. As labor shortages become critical, employers will find the need to retain more of their skilled older workers, with early retirement becoming a thing of the past and delayed retirement more the norm (Training and Development Journal, 1990).

Unlike the demographic decline in the 16-24 age group, the number of workers in the age 45 to 54 category will increase by more than 40 percent. Employers will tend to look to the "baby boom" group, due to sheer numbers, to help fill the entry-level and part-time employment gaps. However, labor force participation by men between 25 and 54 is greater than 90 percent. The rate for women in this age group is about 74 percent and expected to be more than 80 percent by the year 2000 (Crone, 1990).

Companies experiencing labor shortages already have begun to recruit older people (of current retirement age) and encourage them to re-enter the work force. McDonald's McMasters Program not only recruits older employees, but pampers them with special training and their choice of work schedules. To combat major turnover rates of 19-to-25 year olds, Great American First Savings Bank in San Diego and Naugles, a major West Coast restaurant chain, concentrated on hiring older workers which produced drastic reductions in their turnover problem (Training and Development Journal, 1990).

Literature Review: Critical Issues of an Aging Work Force

Maintaining the Dynamism of the Aging Work Force

In the Hudson Institute's study, Workforce 2000 (1987), six challenges were outlined which require rethinking and revision.

1. Stimulating balanced world growth
2. Accelerating productivity increases in the service industry
3. Maintaining the dynamism of a aging work force
4. Reconciling the conflicting needs of women, work, and families
5. Integrating Black and Hispanic workers fully into the economy
6. Improving the education and skills of all workers

The call to action for vocational education is described in the narrative of at least three of the six challenges but most directed in Challenge Number 3: Maintaining the dynamism of the aging work force.

> As the average age of American workers climbs toward 40, the nation must insure that its work force does not lose its adaptability and willingness to learn.

Before every community college in the nation and technical college in Wisconsin checks this challenge off the list due to their involvement in worker retraining, the meaning of this challenge must be clearly understood. This challenge will not be addressed unless:

- There is a national consensus that all workers should expect to learn new skills over the course of their work lives.
- There is a systematic effort to insure that all workers are constantly reinvesting in themselves to avoid obsolescence.

This challenge pushes vocational and technical education one step beyond our current activity in business and industry contracting to a role in informing all workers and employers to expect education to play a key role in their future success. Skill obsolescence is the ongoing threat to achieving "the positives" in life for the employee and the employer.

The Impacts of Aging

It is difficult to overestimate the impacts that this maturing of the population and the work force will have on society and the economy. While most commentary has focused on the benefits of an older work force, the changes ahead will be both positive and negative, and the balance may be decidedly unfavorable.

On the positive side:

- A more experienced, stable, reliable, and generally healthy work force should improve productivity.
- The economic dependency ratio (the proportion of the population not in the labor force compared to those in the labor force) will continue to drop.
- The national savings rate may rise as the baby boomers reach middle age.
- Labor markets for younger workers could tighten.

On the negative side:

- The aging work force may increase the rigidity of the economy.
- The death of young workers may hamper the ability of companies to grow rapidly or to respond to change.
- Many companies with older work forces may find that their aging, higher paid workers make them uncompetitive.
- The job squeeze among middle-aged workers may become more intense.
- Many industries that depend on young people for market growth (i.e., higher education) will retrench.

On balance, it appears that the impacts of the aging work force may be favorable in the early 1990's, but could turn strongly negative by the turn of the century, as aging pushes the huge baby boom generation into its fifties.

Source: Workforce 2000: Work and Workers for the 21st Century, Hudson Institute, 1987.

The Need for Skilled Older Workers

American employers simply cannot afford to retire educated, skilled and experienced workers at a time when the pool of young people entering the work force is shrinking, when the demand for high skilled workers is rising, when many new entrants lack basic skills, and when aggressive foreign competitors stand ready to displace American companies in the world market. If American corporations do not find ways to retain, retrain and recruit older workers, they are likely to see their profits eroded and their futures in jeopardy (Moloney, 1989).

It will be critically important for the economy as a whole and for individual organizations to extend the work lives of the "baby boomers." Organizations that have developed flexible and positive policies and practices for the management of older employees will have a clear edge (Rosen, 1985).

Equally as dramatic as the demographic impact of older workers are the major workplace changes that are occurring. High performance work organizations will need to unleash new advances in productivity, quality and product variety and the speed of new product introductions (Commission on the Skills of the American Workforce, 1990). To do this, changes in the organization of work need to be made. These changes involve total quality management practices that flatten the organizational structure, insist on greater levels of responsibility and decision-making at all levels, and employee input to impact continuous improvement. This reorganization of work will clearly require more skills of employees, old and young alike (communication skills, decision-making, teamwork, reading skills, critical thinking, problem-solving, etc.). Employers can either maintain the work organization model of the early 1900s which focused on repetitive, narrow-skilled production or move to a highly productive work organization model that taps the full range of human resource potential. Without a skilled work force, most companies will settle into low wage, traditional work organizations. If this happens, our country loses the ability to compete in the world economy and we lose our high standard of living (Commission on the Skills of the American Workforce, 1990).

Two potential large scale responses appear capable of coping with the changes in the workplace and labor supply: (Smith, 1988)

1. Reducing the skill level of jobs through automation or fragmentation of tasks. This "deskilling" of work applies technology in a way that reduces the need for skilled labor. It is clearly the least desirable approach for the long term perspective of maintaining a high quality work force.

2. Reorganizing workplace relations to foster greater individual responsibility, learning and interaction. Workplace skills become much broader than basic literacy and technical knowledge and encompass the skills needed to work in teams in a highly participative work structure.

Everyone interested and involved in the workplace, and that includes educators as well as employers, workers and their unions, must understand that projections of slower growth in the labor force mean that recruitment, training and retraining of older workers will become increasingly important (Dole, 1989).

Older Worker Stereotypes

Older workers continue to face obstacles in the workplace despite increasingly positive attitudes toward older employees, concludes the 1989 study on "Business and Older Workers: Current Perceptions and New Directions for the 1990s." This study, conducted for the American Association of Retired Persons (AARP), surveyed human resource executives from a random sample of 400 companies regarding employees age 50 and older. The survey found business attitudes toward older workers to be positive, with work ethic characteristics prized by 89 percent of the respondents. Survey respondents also cited older employees' commitment to quality, punctuality, productivity and loyalty as valued traits (AARP, 1989).

Still, negative perceptions of older workers often prevail among corporate management. These include a perceived lack of competence with new technologies, unwillingness to be flexible with new tasks, lack of a competitive, aggressive spirit, the inability to learn new skills quickly and a disinterested, negative response to additional training. Additionally, most managers believe employing older workers is simply too costly (Moloney, 1989).

There seem to be two primary obstacles that prevent employers from fully employing older workers today, and they both seem to be based on perception rather than on fact. Employers question the older person's ability to learn and adapt to new technology. Older workers can master the same knowledge and skills as younger workers with the proper adjustment in training techniques and training time (Schesch, 1988). Employers also perceive that older employees are too costly, primarily related to health care coverage. Employer-paid insurance rates are no different for older employees than for younger ones. Hospital stays do tend to be longer for older workers, but they have a better track record than younger workers in the number of sick days away from work (Stenson, 1990).

Many companies are still laboring under myths that a worker's ability deteriorates with age and that older workers will cost a company more in sick leave and medical benefits than their work is worth (McConnaughey, 1989). What most companies fail to realize is that both research and experience indicate that older workers are, in relation to the great majority of jobs, as physically and mentally able to perform their duties as most younger workers, and are fully as capable of retraining (Johnson, 1990).

In a report by The Conference Board, important research findings show that chronological age is a poor predictor of physical or mental ability. Turnover rates of older workers are decidedly lower than those of younger employees. Older workers learn as well as younger ones, except when stress is applied. And updating the skills of existing workers will be one-third as expensive as hiring new graduates trained in the latest technologies. However, better information on the performance of older workers is needed to redress the current stereotypes (Moloney, 1989).

A nationwide survey of 300 human resource managers and readers was conducted by Personnel magazine in 1987, achieving a 30 percent response rate. Seventy-seven percent of the respondents were investing in older workers by providing them education or training opportunities (on-the-job or in-house training, orientation programs, continuing education courses, conferences, workshops and seminars). Seventy-six percent of the respondents utilized older workers in the training of younger employees. Most of the respondents had positive feelings about the older workers in their organizations. According to the managers, these workers were prompt, productive and well motivated; they were worth the investment of further training and education; they were capable of training younger workers and in some cases assuming management positions. In short, the older worker seems to be an important organizational resource (Blocklyn, 1987).

As time goes on, our vast resource of experienced older workers will go untapped if they continue to be victims of workplace "ageism." Counterproductive policies such as early retirement will waste a critical resource--one of the largest, best educated, physically able, longest living older populations the world has ever known (National Committee on Careers for Older Americans, 1979).

Needs of Older Workers

The needs of older workers are not all that different than the needs of any adult - economic security, insurance benefits, time for leisure, recreation and family, a sense of making a contribution, relevance, respect and the social/psychological benefits of workplace dynamics. The difference involves the amount of work experience and change (or lack of change) the person has had over time. Older workers are also entering a period in their lives when they may either need to or want to cut back on the amount of time spent at work. New surveys of older workers show a growing preference for postponing full retirement (Schesch, 1988).

Relevance, in terms of up-to-date workplace skills, is a critical need of the older worker. The stagnation pattern of many older workers is due to a lack of training, or in some cases, a lack of complete retraining. One of the main reasons people stop working is that the skills developed in their youth are no longer appropriate to the changing workplace needs. The staleness sometimes associated with older workers is often not a staleness due to age, but rather the staleness of working for decades at the same job (Training and Development Journal, 1990).

When the work environment is changing so rapidly, with increased global pressures to reduce costs and increase productivity, older workers become very vulnerable. This is somewhat due to management's perception of this work group, but productivity skills of older workers themselves is also part of the issue. To remain competitive and viewed as assets to employers, older workers must take the initiative to upgrade skills and seek training. They cannot wait for their employer to make the first move to upgrading skills. Many older workers also have a need for career or other types of counseling or require assistance in assessing their needs for further career preparation or change (AARP, 1989).

Obsolescence is a major obstacle in the career path of older employees (when knowledge and skills fail to meet job requirements). Employees can become obsolete when they see no need to keep current or lack knowledge of how to go about upgrading their skills. Even when training activities are available, older employees may perceive insufficient payback to warrant their time and effort. This problem is compounded when an employer is reluctant to invest in the upgrading of senior employees (Rosen, 1989).

In many organizations, human resource professionals have encountered resistance to training participation by senior employees. Some reasons cited include fear that participation in training will expose their inadequacies, worry about successfully learning the content and skepticism about the benefits of training (Rosen, 1989).

Employer Preparation and Responsiveness

To be competitive in the economy of tomorrow, employers will need to develop creative ways to recruit and retain older employees, and help them to work up to their full potential in a changing work environment.

To prevent employee obsolescence, training and retraining will be an absolute necessity for all employees. Flexible work and study arrangements will be needed to keep up with this need for training/retraining. Training programs have generally been oriented to younger, managerial employees in the past. Large firms typically do more in the area of employee training. Small businesses will need to identify resources for training as well or simply will not be competitive. The competition between all employers for skilled, competent workers will intensify. Waiting until a skill crisis occurs is a very risky business for both the employer and employee (Schesch, 1988).

Training experts agree that upgrading of old skills or retraining for new work tasks/occupations is most successful when the employee is still working. This is, no doubt, due to the absence of unemployment-related pressures. However, many employers have yet to change their traditional attitude towards older employees as basically a "spent labor force" by their early 50s. They fail to see the significant investment already made or the productive work life left. Therefore, little is done for them in education and training (Schesch, 1988). However, most will report equal opportunity for training available to employees of all ages to avoid allegations of age discrimination.

Employers must rethink the potentially counterproductive early retirement policies that are routinely enacted. Phase-in retirement options need to be developed, allowing for older workers to gradually move into retirement. Fewer than one percent of America's employers have a phased retirement program; well over half continue to support early retirement programs (Taylor, 1989). Organizational structures and job functions may need to be re-designed to make the best use of the experience of the older worker "asset."

Employers could consider building in more work schedule flexibility if they wish to recruit and retain older workers. Some options here could include job sharing, flex time, shortened work weeks and leaves of absence (National Committee on Careers for Older Americans, 1979).

Employers also need to address a fundamental philosophical attitude toward their human resources relative to this changing work force. In the new economy, people must be treated as assets to be developed in order to add value, not as costs to be reduced (Carnevale, 1990).

The Role of Education and Training

Several factors indicate the need for higher education to assume a major role in employment training for mature adults. Technological advances and economic instability leading to periodic job changes by workers makes occupational education important throughout the work life. As workers must continually upgrade skills to remain competitive and to obtain new jobs in growth sectors, retraining will be needed to acquire new job skills (Morris and Caro, 1991).

The importance of education and training to a quality, skilled and productive work force is quite evident. Companies who train their employees end up with productivity increases more than twice as high as the wage increases that come with training (Carnevale, 1990).

The Report of the Commission on the Skills of the American Workforce (1990) characterizes the state of our nation's training and development efforts as follows:

> America has no coherent employment and training policy for the majority of its workers. Little training of front line workers occurs in the private sector. Most workers receive no education or training beyond high school.

The overall U.S. commitment to training is about 1.4 percent of the payroll. Only 55 percent of American employees say they received either schooling or formal job training to help them qualify for their jobs and only 35 percent say they received any formal retraining after they went to work. The vast majority of American employees--a whopping 90 percent--never get formal training provided and paid for by their employers (Carnevale, 1990).

The MIT Commission on Industrial Productivity repeatedly found managers who said, "We have no training problem here." There seems to be a systematic underevaluation in this country of how much difference it can make when people are well educated and when their skills are continuously developed and challenged (Carnevale, 1990).

It is continuous, incremental improvement that gains the lion's share of most commercial success. For companies to be competitive, innovative and develop new applications, all employees need to "up their learning curve," placing greater value on fast learning. Workers with narrow skills are vulnerable to rapid obsolescence at a time when brain power is becoming a critical resource (Carnevale, 1990).

When training programs are examined by age and rank of participants, it is clear that they are primarily designed for young managerial employees or those being developed as managers. This restrictive approach to training will not satisfy the growing demand and need for training and development at all employee levels and ages (Rosow, 1980). Equally skilled workers are needed at the point of production and customer interface (where noncollege graduate employees are concentrated). College grads tend to get more employer supported training (one in five) vs. noncollege grads (one in 13) (Carnevale, 1990).

While many major industries provide training programs of their own, most working adults need to access other sources for retraining. Forty-eight percent of the work force is employed in organizations with fewer than 500 employees. Small organizations typically don't have the resources to provide their own training, yet these employers are expected to be the major source of job growth. Institutions of higher education are major resources for these employers and employees (Morris and Caro, 1991).

"Education needs to transform itself from a strictly youth-oriented institution to one that also serves the needs of growing numbers of adults" (Best, 1990). Traditionally, education has focused on preparing youth for employment, but must now make lifelong learning a reality for adults. Educational institutions can play a major role in preventing the waste of human resources--older people and older workers. Yet, few educational institutions have accepted the challenge and are actively responding. Those who are responding recognize the demographic, economic and social factors making the older adult a key market for the services they provide, and have adjusted institutional resources and systems as much as possible to meet the needs of this clientele (National Committee on Careers for Older Americans, 1979).

Based on predictable demographic trends and current statistics, several areas of educational change need focused attention: (Best, 1990)

1. The need to improve basic skills. Serious skill deficiencies exist among large portions of the population. Some 41 percent of the jobs in 2000 will be in higher-skilled occupations, compared to 24 percent in 1984.

2. The need to serve more people. Groups that traditionally use publicly funded adult education are growing faster than the general population--elderly over age 65, blacks and Hispanics, workers retraining and others. Adult education clientele will be diverse and larger in number.

3. The need to increase access and delivery options. Barriers need to be removed making education more accessible. Flexibility, convenience and choices concerning time and place arrangements and methods of learning will be critical.

4. The need to diversify programs. The future providers of adult education must balance many needs--job skill training, literacy, personal enrichment.

In testimony before the U.S. Senate Special Commission on Aging (1980), an official of the Florida Department of Education (a state with one of the highest concentrations of older workers and retirees) stated that:

> One of the biggest problems facing displaced workers or workers reentering the work force after a long absence is the state of the country's community college and vocational-technical systems. Most post-high school programs are targeted at the 18-30 year old population. There is a shortage of programs for workers who need supplementary or "brush up" education or non-credit short term training, rather than two or three year programs. Instead of tightly organized retraining programs utilizing techniques found to be most successful with older workers, many community colleges and vocational-technical efforts seem more oriented to cultural enrichment courses for older students.

Community, technical and junior colleges have a major role to play in ensuring that the needs of the new economy are met. They must be adaptive and creative, with the ability to respond quickly to the needs of students, employers and society as a whole (Davenport, 1989). Their role in the training and retraining of older workers is as significant as the role of training young adults for initial employment.

Community colleges appear to be the country's most important resource for employment training of mature adults because of their economic and geographic accessibility, their current focus on occupational education, their close working relationships with area employers and their responsiveness to needs (Morris and Caro, 1991).

Education Triggers and Barriers for the Older Student

The customer profile of post-secondary education is part of a gradual but steadily shifting paradigm. The old paradigm defines education as preparation for a lifetime of work which is completed by about the age of 25, following the traditional linear life pattern. Most people are expected to work until about age 65 when leisure activity becomes the focus of their lives until death (Best, 1980; Dychtwald, 1989). Most post-secondary education, even that defined as "adult education," is designed to respond to that traditional life pattern: education, work, leisure. Adult education really means "younger adult" education (age 18-25) but is certainly available to older adults who need or desire the services of post-secondary institutions. Although there is notable progress toward developing educational systems which truly support lifelong learning, overt evidence exists that educational endeavors beyond a certain age are not considered the norm.

Two Perspectives on Educational Motivation

A major portion of the literature focused on older adult learning observes that something, usually a crisis, needs to "trigger" the older person to enroll in post-secondary education. An immediate problem may be an identifiable event such as a divorce, illness or death of spouse, loss of employment, geographic moves, or children leaving home are typical (Aslanian, 1989). These situations have developed "catchy" social service type titles like displaced homemaker or dislocated worker. Although a sincere desire exists on the part of the government and educational system to be helpful to persons having difficulty, these labels solidly confirm not only the abnormality of their situation but the linkage of education to crisis in older adulthood.

The alternative to the linear life pattern is a new paradigm of a cyclic life pattern which acknowledges the realities of changes throughout life as normal (Best, 1980). In the cyclic life plan, the education/work/leisure components are not assigned to specific ages (except for education through high school graduation age). There is no set retirement age, in fact, retirement does not exist in the traditional sense. The cyclic life plan affirms mid-life education, career change, and leisure breaks as acceptable practices. It also supports preventive behavior which encourages skills upgrading and retraining as a vital component of a technologically and economically changing job market.

With the desire to move positively toward the future, the literary sources which espouse a nonproblematic orientation in systems design for the older learner need to emerge at the forefront. Very often even the positive words, like lifelong learning, have multiple usages (Cross, 1988) which appear to be universally coined as a political rallying device without a common meaning understood by all. For example, lifelong learning may be defined as a philosophical statement supporting education and training throughout one's lifetime. It may also be defined as a recreational pursuit for people over age 65. For purposes of illustration, the idea that lifelong learning is a leisure activity for senior citizens is a concept which belongs to the old paradigm of linear life patterns. Recreational learning as well as career-based education need not be relegated to certain age groups. On the other hand, there undoubtedly needs to be special programming to assist people in breaking with the traditional linear mind-set that categorizes education as an activity of the earlier years of life. Mixed messages and double meaning of terms seems to be a common phenomenon as the transition occurs between paradigms (Barker, 1990).

Barriers for Older Learners

The issue of access to education is a popular topic in adult education research. The interest and significance of this issue will heighten as the shift to the new paradigm of cyclic life patterns becomes stronger. From the vantage point of paradigm shift in the role of education, the identification of barriers in a system that was never meant to serve older learners appears to be a futile, patchwork exercise. Yet, in a practical sense, educational reform begins within the framework of an existing system. Limited resources are the reality which force us to salvage from the traditional system the knowledge of what has and has not worked for adult learners. Hopefully, future planning can advance to create systems designed with older adult learners in mind rather than the approach of fixing proven barriers. It is important to be sensitive to the barriers but have a vision of how those barriers can be transformed into positive proactive directions for future educational systems.

Common barriers for the older learner are: situational, dispositional, institutional, and instructional (Cross, 1988).

Situational obstacles arise from elements in one's life roles which present conflicting priorities. Examples are time schedules, job and family duties, lack of money, child care, transportation. These are tangible roadblocks to education. Publicly supported training programs for disadvantaged adult often address situational barriers as a initial key to positive intervention. It is not uncommon for disadvantaged adults to experience multiple situational and other barriers to training which complicate their chances for success. The most initial barrier for all working adults at all levels is time constraints. This factor is important in examining traditional academic requirements and systems.

Dispositional barriers deal largely with emotions and attitudes of the individual adult related to education. Also, referred to as "baggage barriers," these elements act as filters to the adult's reaction to the idea of learning and performance in the classroom. Fear of failure and having learning difficulty is a common distraction which deflects the option of education from the adult's list of possible life paths. Some adults may have difficulty shifting from a supervisory role to a subordinate role as a student. Most dispositional barriers emanate from the traditional linear life plan that projects a latent message that those person's who need education later in life have failed. Unfortunately, adults who buy into this disposition are likely to be victims of their worst fears. Traditional male and female roles, self-concepts, and occupational categories also present barriers for adults in gaining a productive perspective on education in their lives.

Institutional barriers in an academic environment are primarily created because the older learners must fit into a system designed for younger learners. Six major institutional barriers include: 1) scheduling problems; 2) location or transportation; 3) lack of relevant courses; 4) procedural systems; 5) lack of information about programs, procedures, and service; and 6) staff relations. Educational institutions have the challenge of examining their environment as friendly or hazardous for the older adult. The fact that the institution is currently serving adults does not necessarily mean that the needs of the adult student customer are being optimally addressed. All systems from marketing to placement need to be analyzed from the viewpoint of the potential older student in the work force.

Instructional barriers are those caused by the classroom setting, curriculum, academic requirements methods of teaching and instructor attitude toward the older learners. Cognitive styles of the older student are influenced by age although the ability to learn is not impaired through the normal aging process. Technology is not beyond the uninitiated older student but a computer-based course may present unique challenges for the nontechnical older student. The key is instructor sensitivity to individual student needs and knowledge of effective instructional options in information delivery. As the population ages and work force requirements for training increase, the profile of the student body will reflect the need to address instructional barriers. More and more this will require mainstream systems reforms rather than specialized off-track target group responses.

Trends and Insights

This section will highlight topical issues of key significance to the issue of training an aging work force. Special reports on the status of the work force are referenced in relation to their treatment of the aging work force dimension. Observations from two national conferences are included to provide "state-of-the-issue" insights. A future orientation is the focus of this discussion as necessary to advance in a work force environment different from the past.

A World Class Workforce for Wisconsin--A Report of the Governor's Commission for a Quality Workforce (April 1991)

Governor Thompson charged the Commission for a Quality Workforce with studying the present and future skill needs of Wisconsin employers as a part of an ongoing effort to set the course for economic and education policy development. As a key educational resource for skilled worker development, the Wisconsin technical college system has worked closely with the leadership of the Commission to provide for a statewide exploration of the worker preparedness issue and the options for skills development policy. One thousand eight hundred fifty (1,850) employers participated in a mail survey during the fall of 1990 from a random sample of 3,500 Wisconsin employers representing a cross-section of firms by size and geographic location in key industrial categories: business services, health care, durable and nondurable manufacturing goods, and construction.

The survey confirmed that most Wisconsin employers (92 percent) are having difficulty finding workers who are sufficiently skilled to respond to the needs of employers. This skilled labor shortage stifles productivity for many firms (72 percent). Collectively, employers rate nearly 25 percent of their work force deficient in basic skills with especially poor ratings (+25 percent) for writing, using fractions, and algebra.

This finding comes as a shock when considering the high regard for Wisconsin's work force compared to other states. However, employers are realizing the critical role of the skilled work force as they reorganize the workplace and incorporate new technology.

Specific industry sectors reported on the skills integral to their operation. Large business service firms such as those linked to finances, communications, and computers register low ratings for key technical and personal skills which are characteristic to successful business firms. Wisconsin health service industries indicate high skill performance in their work force to deliver top quality health care. Construction firms depend on traditional Wisconsin hallmarks of primary basics and work ethic skills while seeking more technical skill expertise among their workers. Large manufacturers place high value on the exemplary work attitude and team spirit of Wisconsin workers but desire similar excellence in high order technical and analytical skills. Finally, there is a mismatch between the unskilled portion of the work force and the growing high skill demands of nondurable goods manufacturers.

Wisconsin employers have a track record of working with technical colleges to upgrade the skills of their work force, are pleased with the quality of education, and are planning to work more closely with technical colleges in the future. However, overall employer training investment in real time and dollars of their nonmanagerial workers is low. Few employers have formally assessed the skill levels of their work force and most are looking for new methods to predict skill needs. Over one-third of employers try to fill their skill needs by recruiting workers from other firms, a practice that will be more difficult to continue in the workplace of the future. Across the board, a shortage of front-end trainable workers is a major problem for employers. Employers cite insufficient time and money as the critical barriers to training their nonmanagerial work force, particularly for small business.

The Commission survey found that new technology, new quality systems, team management, and continuous improvement are growing trends. Many employers find it difficult to comment on the skill level influences caused by changes in new technology and other innovations in the workplace. Three in every four employers cite no barriers to developing more meaningful partnerships with education and training organizations. High overall ratings of satisfaction with technical colleges by employers mask problems with regard to the flexibility and appropriateness of technical college training and with the ability of technical colleges to meet the needs of smaller firms. Continuous learning is an integral part of the future workplace with technical colleges predicted as a key training resource for employers.

Based on the survey findings, the Governor's Commission formulated ten recommendations to serve as strategies to ensure that employers in Wisconsin enter the 21st Century with the work force they need to compete in the world marketplace. The recommendations are divided in two sections: Building a Work Class Workforce, focusing on the need to upgrade the skills of the existing adult work force; and Educating the Workers of Tomorrow, focussing on the need to improve the educational performance and preparation of our future workers.

The recommendations are as follows and of equal significance:

- Building a World Class Workforce

  Policy Recommendation #1: More Wisconsin employers must adopt new technology and methods of organizing work. To support this effort, technical colleges must facilitate employer leadership and participation in worker training and retraining.

  Policy Recommendation #2: Technical colleges must upgrade occupational education to meet the growing needs of employers.

  Policy Recommendation #3: Wisconsin's employers and workers, in partnership with the technical colleges, must reskill the existing work force for a more competitive economy.

  Policy Recommendation #4: Technical colleges must work with business and industry across the state to improve access to training.

- Educating the Workers of Tomorrow

  Policy Recommendation #5: Wisconsin's system of public education must adopt outcome-oriented, competency-based educational objectives throughout the primary and secondary grades.

  Policy Recommendation #6: Educators, the business community, and state policy makers must establish attainment of Certificate of Initial Mastery as a prerequisite for eligibility for employment or training opportunities for high school students.

> Policy Recommendation #7: Technical colleges and high schools must substantially improve alternative educational programs for students at risk of dropping out of high school and for adults in need of high school instruction.
>
> Policy Recommendation #8: High school curricula must be redesigned to prepare nonuniversity bound students for technical careers.
>
> Policy Recommendation #9: Educators and counselors in high schools must work with employers to improve the transition from school to work for students entering the work force directly.
>
> Policy Recommendation #10: Educators and counselors in primary and secondary schools must improve career education for all students throughout their educational experience.

Policy Recommendation #3 speaks directly to the issue of training the aging work force in that lifelong learning encompasses the most critical issue for older workers--employed and unemployed.

Upgrading the skills of Wisconsin's work force will require a concerted and continuing effort on the part of employers and the technical colleges. Along with determining what skills workers will need to enable business and industry to regain its competitive edge, ongoing training for all workers must become a priority of Wisconsin's employers. A team effort, pairing technical college staff with employers and workers, is needed to ensure success. Strategies to implement these changes:

- Expand competency testing of new hires and existing employees.
- Expand employer-sponsored skills training through increased continuing education for adult workers on technical college campuses, through private and in-house training efforts, expanded apprenticeship programs, and through Workplace Learning Centers.
- Increase collaboration between technical college and University of Wisconsin faculty to promote work-based learning.
- Expand awareness of the need for lifelong learning.

The entire survey findings and recommendations of the Governor's Commission for a Quality Workforce are included in such detail in this report of the aging work force because all of the issues raised have significance in addressing the topic. The central point of any discussion of the work force, with either a quality or aging focus, is skills. Employers not only want skilled workers of any age but need them to survive in the globally competitive economy. Strategies are needed in both ends of the age spectrum and throughout the middle to make this happen. The issues raised in the Commission report for the overall work force are magnified as the work force ages and it becomes universally clear that experience alone does not produce the skills needed.

The recommendations of this Commission report wisely balance the needs of the existing work force and the workers of tomorrow. Policy makers do need to act in this balanced fashion. It would be inadequate to institute more tech-prep in the schools, for example, without continuing to focus on skills obsolescence and retraining issues in the workplace. Demographically, there simply are not enough younger people to meet the skilled labor demand of business and industry. Unless active measures are taken to progress in the direction outlined in the Commission report, the outlook for a competitive future is seriously clouded. The fact that the work force is aging only means that time is of the essence in taking action.

National Alliance of Business 22nd Annual Conference and Exposition "Work Force America '90: A New Decade of Partnerships," Los Angeles, California, October 28-31, 1990.

International competitiveness, a highly skilled work force, and conquering American complacency were the overall themes of this very valuable conference. As Secretary of Labor, Elizabeth Dole, quoted Oliver Wendell Holmes, "To live fully is to be involved in the passions of our time." The topic of the absolute need for quality initial and ongoing training of the work force was clearly underlined in a passionate way from all presenters. Certainly the report, "America's Choice: High Skills or Low Wages" was a central reference and driving force. Speakers varied from government officials at the federal, state, and local levels in labor, education, job training, and executive offices to corporate presidents and human resource managers. The major workshop tracks were: educational change, job training systems, and workplace learning. Many of the participants were associated with Private Industry Councils either as staff members or as local business representatives on the board of directors. Some community colleges attended primarily in connection with Job Training Partnership Act (JTPA) funded programs in their college or other affiliations with Private Industry Councils. The high quality and intellectual value of the conference message was received by approximately 1400 conference participants.

The Aging Work Force research project clearly benefited from the perspective gained on the breadth of the work force training issue. It cannot be minimized to a target group or special project; it requires systems reform with all partners involved. This is a fundamental cultural change, "a historic watershed," that ongoing training/education belongs as an integral part of a work environment.

The American system of work and education are generally designed for the industrial economy of the past which was highly competitive and successful. This is part of the problem with motivating reform and ultimately breeds complacency toward reform. The traditional mind-set on training is short term, one shot, and kind of the "extra fluff" beyond getting the work done. In addition, individuals and companies could stand to get years or decades of productivity from this quick training fix. This factor also leads to the equation that the training of younger workers yields more return to the firm in terms of years of productivity. In actuality, the most productive companies have abandoned these dated principles. Certainly our strong competitors abroad adapted principles to the contrary, to their long-term benefit. Yet, the general American mind-set is slow to change while the economy shows increasing signs that change is needed.

The factor of an aging work force is another challenging component of reforming training practices for the work force. It is not a separate issue--it is the issue. The work force that will drive the American economy into the 21st century is, in large part, at work and aging. Without constant skills upgrading, our workers stand vulnerable to their worst nightmare--unemployability and downward mobility. These are not the typical disadvantaged to whom we target needed special services, these are mainstream American workers. And they are aging . . . aging with dreams of increasing wages, comfortable retirement and confidence that their employers will alert them to skills development needs. The frontline American worker is secure in waiting for the company to know when training is needed. They are not prepared to be informed that their skills are obsolete and the company cannot afford to keep them employed. For the American work force, America's only choice is high skills because without it the heart and soul of its workers will be lost. The cost of today's complacency toward the urgency of upskilling the existing aging work force is a future liability of vast proportions. This issue is clearly a "passion of our times" which government, education, and employers cannot afford to overlook.

"The Role of Higher Education in Employment Training of Older Adults," A Small Working Conference Sponsored by the University of Massachusetts-Boston, Atlanta, Georgia, June 12-14, 1991.

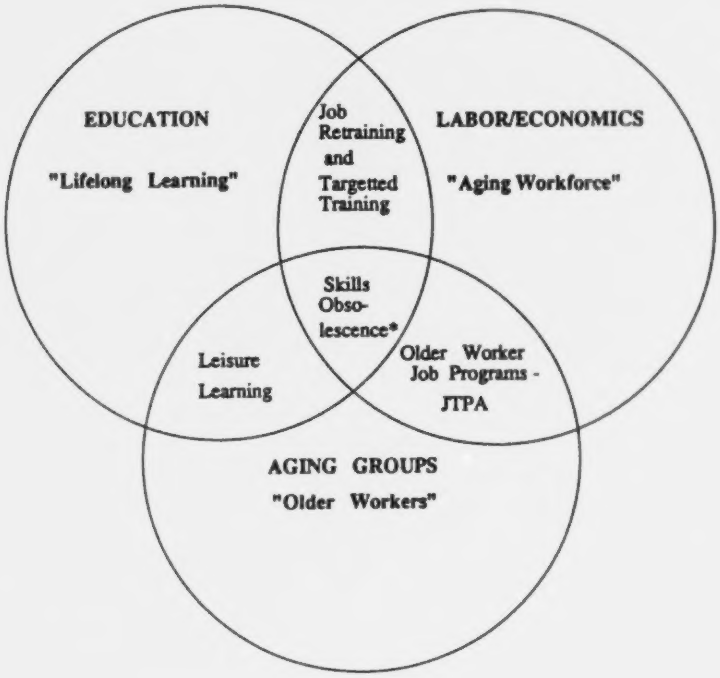
This invitational conference included 24 participants who primarily represented community and technical colleges who have special programs for adults over age 40. National organization representatives included the League for Innovation in Community Colleges, American Association of Retired Persons - Worker Equity Department, and the National Council on Community Service and Continuing Education. The purpose of the conference was to initiate a national network of individuals involved with employment training of older adults at any level. Existing programs in community colleges and universities were targeted to begin discussions of the issue and consider further development of resources to expand or pilot efforts.

Two reports provided background information on the topic: "Community College Programs for Older Adults" (Joint Project of the League for Innovation in the Community College and AARP) March 1991 and "Employment Training for Mature Adults: An Important New Direction for Higher Education" (R. Morris and F. Caro, Discussion Paper, University of Massachusetts-Boston Gerontology Institute) April 1991. The first report surveyed all 1,224 two-year colleges in the U.S. to determine the extent and nature of programs designed for older adults (age 60 plus). This report found that the few colleges that do offer older adult programs are aimed at nonemployment or skills related training. This report calls for community colleges to recognize their emerging role in training older adults to meet work force requirements. The second report highlights the demographic trends which create an aging work force, skills obsolescence among older workers, labor shortages, and the need to reconsider work force participation of older people and occupational education for mature adults. This report recommends the advancement of the Partnerships in Employment Training initiative of the University of Massachusetts-Gerontology Institute which seeks to identify resources for pilot projects which model program components for older adults.

The key points which came out of the conference discussions were that focusing on special projects for older adults was minimizing the broader issue--skills obsolescence. A new institutional structure is needed at the local community/technical college to address all the components of this issue. The elements of this new structure needs greater research and demonstration and the financial resources to support these efforts. The age of the older worker becomes less critical than the skill level. However, there was some concern raised that the oldest of workers may be lost as skills take on a greater focus.

These conference discussions lead the director of this Wisconsin's Aging Work Force project to crystallize the essence of the complexity in communicating about this issue.

The terminology used by the different sectors of education, aging, and labor creates a semantic jungle. The overlapping circles in Chart 4 is an attempt to illustrate how the words "lifelong learning," "older workers," and "aging work force" can mean different things to different sectors. The involved groups have primarily connected on the fringes of skills obsolescence issue. Their future relationship will most likely be quite beyond the basis for their past intersection. The point is that all of these groups have addressed a piece of the skills obsolescence issue for a fractional population. The reference points of definition are beginning to change which causes confusion and makes it very challenging to nail down a future direction. Hopefully, realizing this dimension of the issue will enlighten further collaboration to sort through the critical issues.


EDUCATION
"Lifelong Learning"
Job Retraining and Targetted Training
LABOR/ECONOMICS
"Aging Workforce"
Skills Obso-lescence*
Leisure Learning
Older Worker Job Programs - JTPA
AGING GROUPS
"Older Workers"

*Skills Obsolescence

- Re-careering
- Re-training
- Lifelong Skills Upgrading
- Lifelong Employment Opportunities

Chart 4 - Terminology Interrelationships

WISCONSIN TECHNICAL COLLEGE ENROLLMENT DATA ANALYSIS: 1986-1990

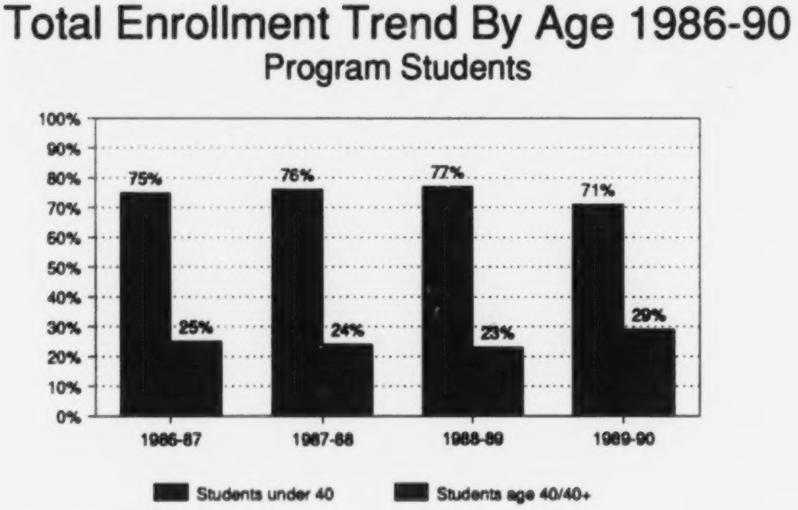
3. Wisconsin Technical College Enrollment Data Analysis: 1986-1990

This research on enrollment patterns by age for students in the Wisconsin technical college system is based on student records and course codes required by the state. The analysis involved a sampling of 10 percent of the records in the total pool of 490,000 records for the four school years (1986-87, 1987-88, 1988-89, and 1989-90). The analysis was designed to examine course enrollment trends for students age 40 and over compared to students under age 40. A distinction was further incorporated between program students, who enroll in a course to meet a requirement for an associate degree or vocational diploma, and nonprogram, occupational adult students defined as aide code 47 VTAE course enrollments.

The intent of this data analysis activity was to explore the existence of a characteristic student profile of any significant consistency based on course enrollments. In other words, the enrollment levels were examined to see if certain programs or courses attracted younger or older students and if there was an increasing or decreasing trend for age-based enrollments in certain program or course areas over four years. While most of the trends can be logically associated with fluctuating popularity of courses, job opportunities and skills upgrading needs, some trends are results of special causes. It is beyond the intent of this study to investigate the nature of these special causes. The data may, however, trigger subsequent research regarding influence of an internal technical college system or external factors.

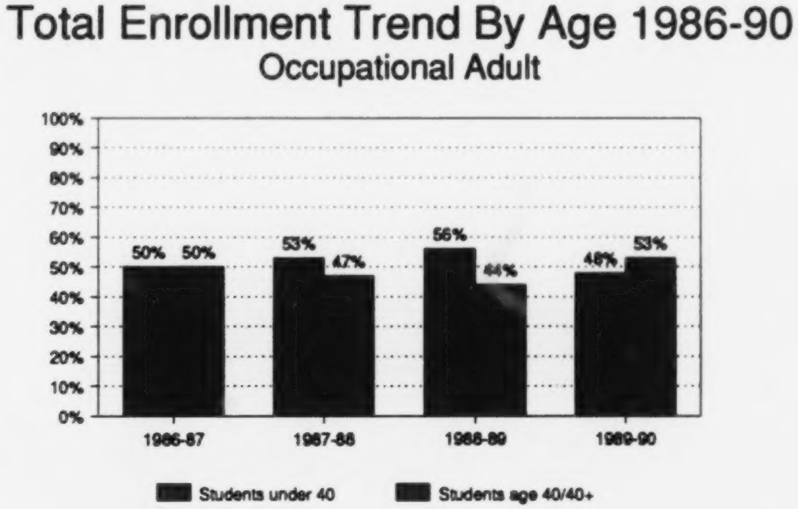
Total Enrollment Trends By Age

Patterns have been notably stable in the last four years for both program and nonprogram students. For program students, roughly three out of every four is under age 40. The rule of thumb appears to be one-quarter of the program students being age 40 and over. This proportion varied throughout the four-year period with a high of 29 percent in 1989-90 to a low of 23 percent in 1988-89. Yearly fluctuations do not indicate a substantial trend. As a student population, this older group is not incidental, but rather a significant segment of the enrolled student profile and a potential source of growth.



Source: WVTAE System Student Records

Chart 5
Percentages

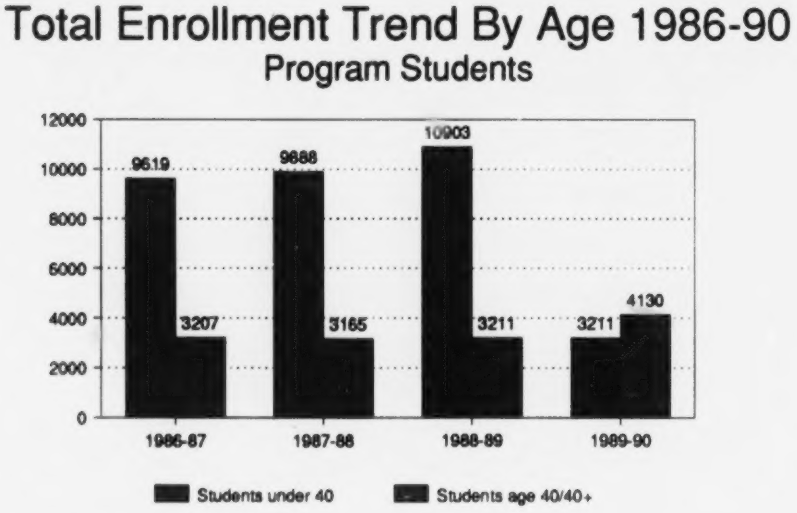


Source: WVTAE System Student Records

Chart 6
Percentages

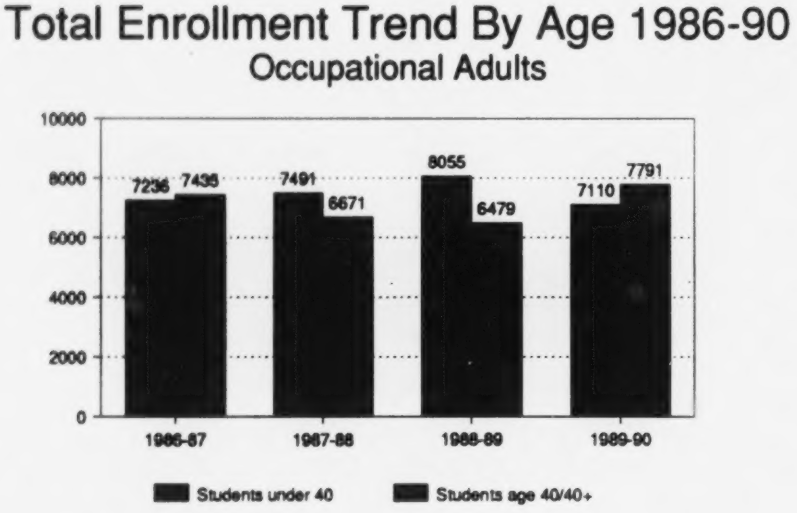
Similarly, occupational adult enrollment patterns are stable in age composition for the four-year period. Older and younger students balance close to equal in proportion. Students age 40 and over comprised 53 percent of the total occupational adults in 1989-90 as a high figure compared to a low of 44 percent in the 1988-89 school year.

The sample indicates that the total enrollments for program students consistently increased over the four-year period while the occupational adult total was more stable over the period. It was expected that the occupational adult would demonstrate an older student profile. These proportions are likely to shift in the next decade as the work force and society ages and the training demands of the workplace increase.



Source: WVTAE System Student Records

Chart 7
Number



Source: WVTAE System Student Records

Chart 8
Number

Program Student Enrollment By Age

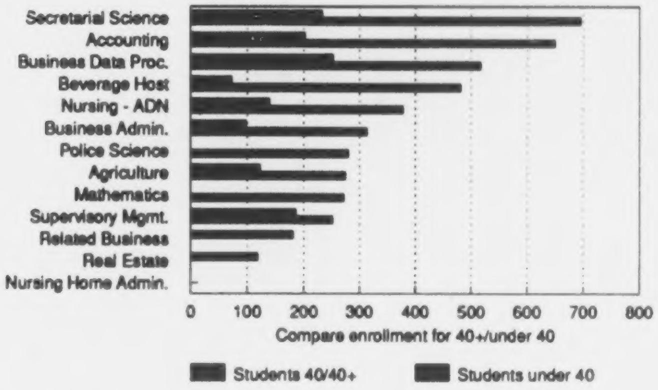
The analysis of program student enrollment by age compares the younger group (under age 40) with the older group (age 40 plus) according to two factors: 1) the greatest number of students enrolled by age group in most popular classes; and 2) percentage of total age group enrollment in most popular classes. Two charts with number and percentage data are presented for each of the school years in the four years examined 1986-90. The 13 courses listed on the chart enables the display of the top ten classes by age group for a given year and allows comparison between years. Some courses are blank for the year or for one or both age groups because the enrollment number or percentage was lower than the top ten ranking. For consistency of comparison, each year includes the same listing of courses.

Program Enrollments: 1986-87

The top three programs were the same for both age groups but in different rank order. The most popular program title for younger students was secretarial science with 696 enrollments or 7.2 percent of the total younger students of 9,619 in the sample. This program ranked second among older adults to the most popular business data processing with 7.9 percent of the total 3,207 older adults enrolled. In terms of percentage comparison, both secretarial science and business data processing made up a greater percentage of total older student enrollments than younger students. Accounting ranked second for younger students with 6.8 percent and third for older students with 6.3 percent. The parallels cease to be as consistent in the rank order for the remaining top programs, however, five of the remaining seven are common to both lists only in differing older. Two programs which are likely to have an age related linkage are beverage host and supervisory management with their popularity younger and older respectively. In addition, police science technology and mathematics are missing from the older student popular listing while real estate and related business programs are absent from the younger student lists.

Overall, the popularity of office occupations and office skills such as accounting and computers (data processing) is evident in the data. Bartenders required to complete the beverage host program are likely to be younger but with good representation from the older age group. Police science may more likely be an early career choice for younger people coming out of high school or shortly thereafter. The second career attractiveness of real estate draws an older crowd. Similarly, supervisory management may be more relevant to students with more years of work experience. The similarities of program enrollments by age group are more striking than the differences.

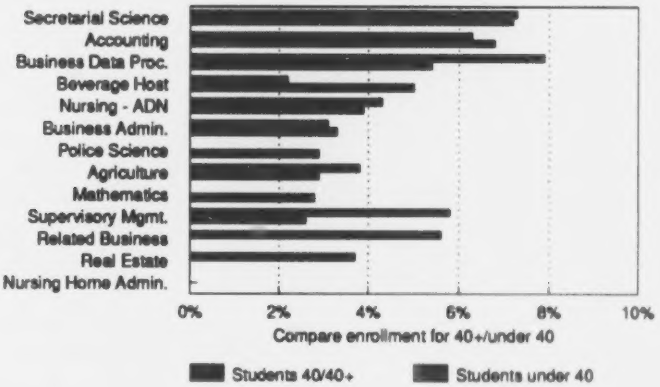
Top Program Enrollments 1986-87
Analysis by Student Age



Source: WVTAE System Student Records

Chart 9

Top Program Enrollments 1986-87
Analysis by Student Age (percentage)

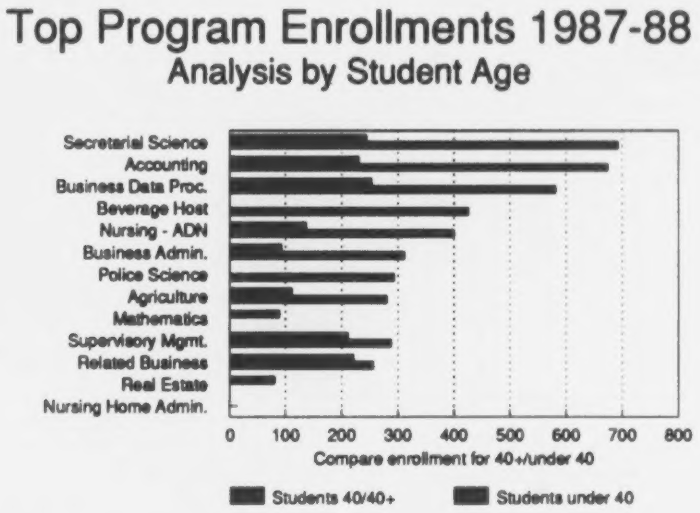


Source: WVTAE System Student Records

Chart 10

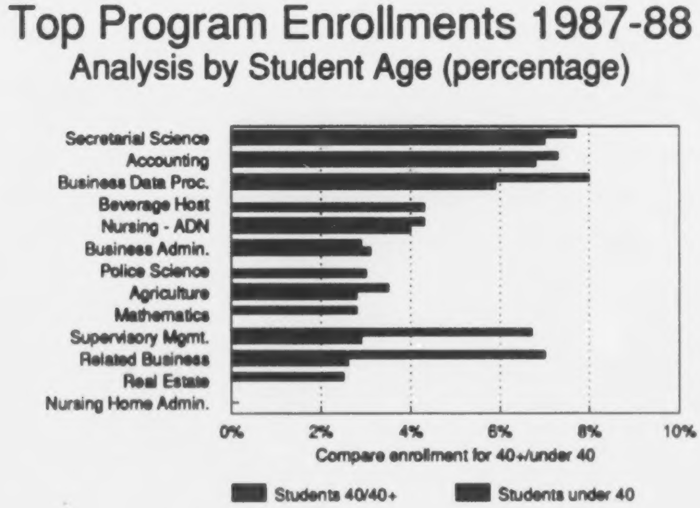
Program Enrollments: 1987-88

Enrollments remained quite consistent with the previous school year for both younger and older students. Total younger students increased slightly to 9,888 while older student numbers dipped a bit to 3,165 in the sample. Trends in enrollments were stable compared to the previous year for both age groups. On the low end of the rankings related business enrollments which include some computer enrollments displaced mathematics which appears on the lower end of the older student list (the only time in the four-year period). Real estate dropped to tenth ranking for older students reflecting the softening market in the real estate industry. The general observation remains consistency in enrollments for both age groups with a few exceptions.



Source: WVTAE System Student Records

Chart 11

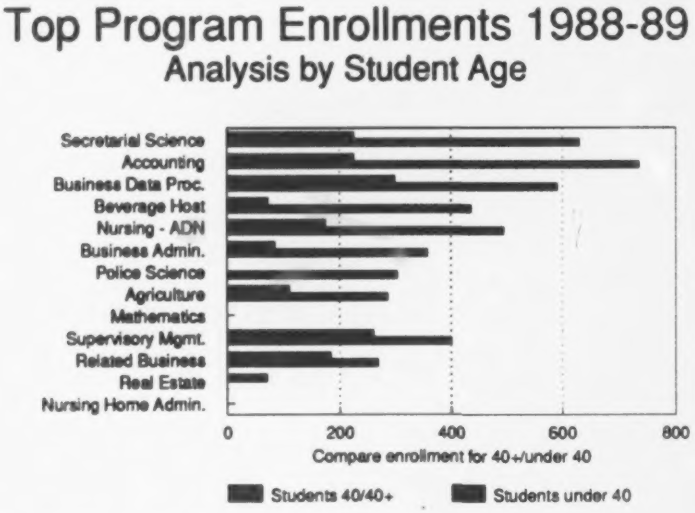


Source: WVTAE System Student Records

Chart 12

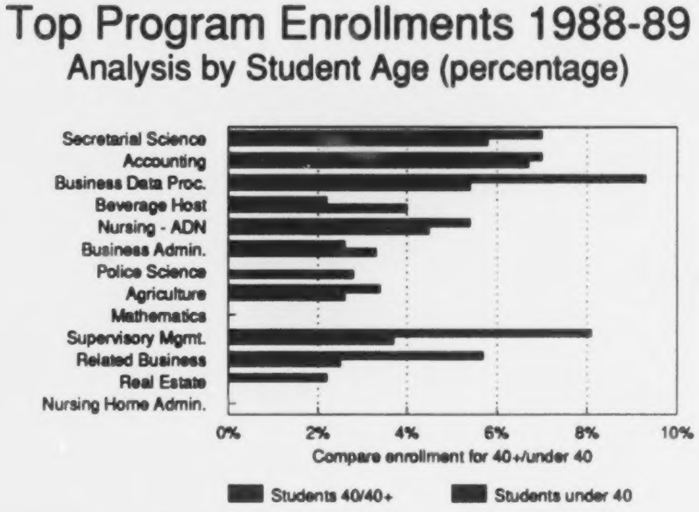
Program Enrollments: 1988-89

This school year noted an increase in total enrollments for both age groups in the sample. Younger students jumped to 10,903 while older students boosted to 3,211. Some shifts in the rank order of classes was noted in this school year for both age groups. Top rank for younger students was accounting with 6.7 percent while secretarial science and business data processing were in the second and third spots respectively. Enrollments in business data processing topped out at 9.3 percent for the older students which was the highest percentage observed for the four-year period in both age groups. Supervisory management jumped to second place for older students with 8.1 percent and moved up to sixth with the younger students indicating an increasing demand for graduates in this area. Enrollment in other courses remained quite stable overall.



Source: WVTAE System Student Records

Chart 13

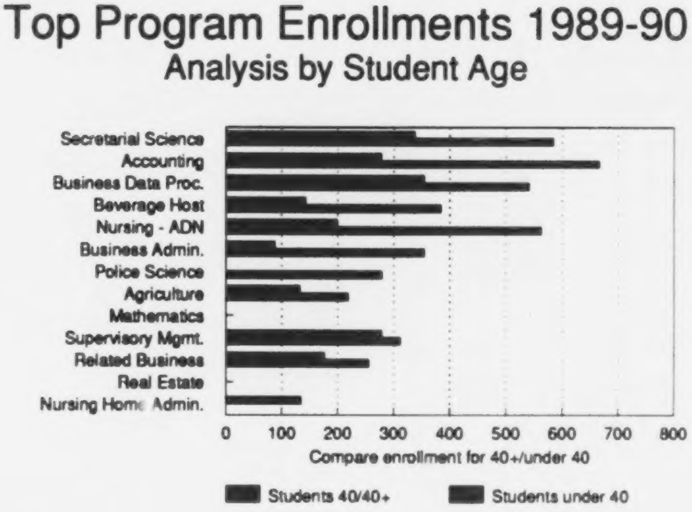


Source: WVTAE System Student Records

Chart 14

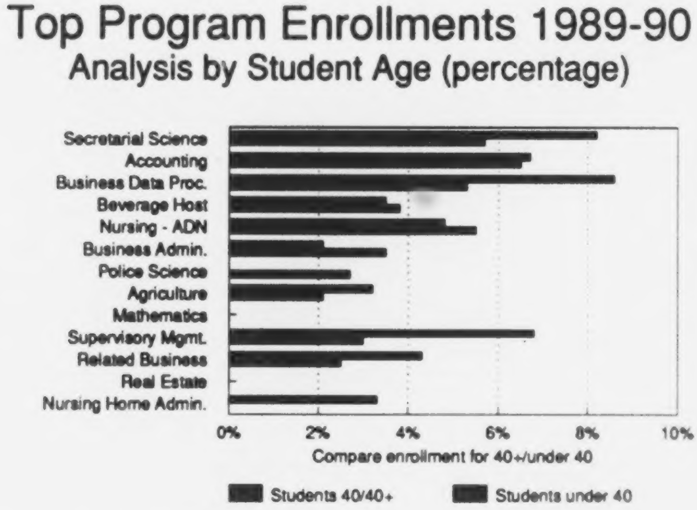
Program Enrollments: 1989-90

Total program enrollments boomed by nearly 1,000 students for older students to 4,130 in this school year for the sample. Younger student enrollments, however, dropped by several hundred to 10,235. The top ranked programs remained fairly stable with the exception of associate degree nursing appearing in third place for younger students with a full percentage point increase from the previous year. The labor shortage in the nursing field and recruitment efforts are likely factors having influenced this trend. Nursing moved to fifth place for older students which was an increase in rank order but slight decrease in percentage of the total. The agriculture area witnessed a steady decrease among both age groups over the four-year period to finish in ninth and tenth places for the older and younger groups respectively. In the older student group, a new program emerged as drawing significant enrollment and ranked eighth--nursing home administrator. This notable increase reflects the growing health care needs of the advanced aged population.


Top Program Enrollments 1989-90
Analysis by Student Age

Source: WVTAE System Student Records

Chart 15


Top Program Enrollments 1989-90
Analysis by Student Age (percentage)

Source: WVTAE System Student Records

Chart 16

Program Enrollments - Summary/GOAL

With a few noted exceptions, program enrollments are not significantly influenced by age. Students, regardless of age, gravitate to programs which hold promise for employment. Enrollments may pattern job opportunities and training needs rather than relative age factors.

The younger student enrollment numbers were larger in total and more widely distributed among programs. Notably, as the total increased among older students, the distribution of enrolled students also increased. The growth in actual number of student enrollments in a certain program area was not linked to a percentage increase or decrease.

Enrollments in basic skills remediation courses (GOAL - Goal Oriented Adult Learning) were coded as program enrollments but not included in the rank order of courses. If GOAL general education had been included, they would have ranked first for all years in both age groups. The younger group shows an increasing trend of 13.3 percent (1,280 students) in 1986-87 to 18.6 percent (1,908 students) in 1989-90. Similarly, the older students demonstrated an increase in the first three years with 14.0 percent (448 students) in 1986-87 to 15.8 percent (506 students) in 1988-89. The last year noted a significant drop to 12.0 percent (498 students) which is certain to be influenced by the substantial increase in the total older students in 1989-90. Although not an actual program, GOAL enrollments continue to swell as students of all ages require remediation in basic skills to manage their curriculum in technical college programs.

GOAL Enrollments in Wisconsin Technical Colleges

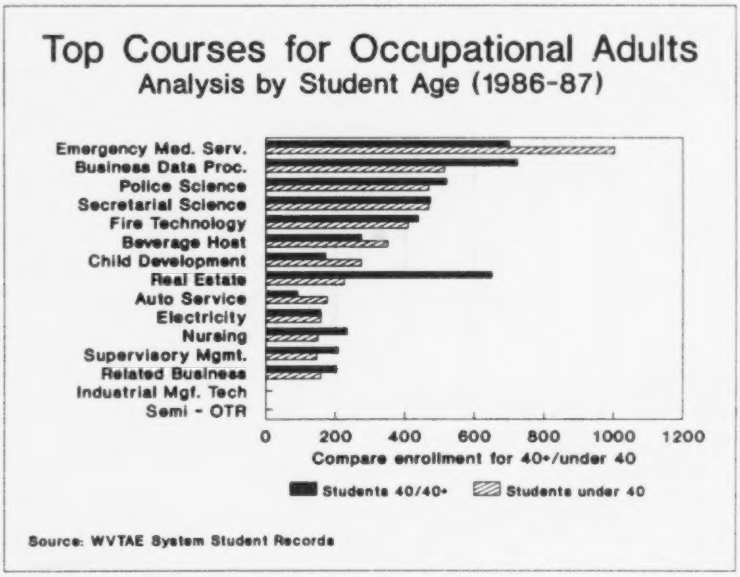
		1986-87	1987-88	1988-89	1989-90
GOAL - General Education	(< 40)	1280 (13.3%)	1451 (14.7%)	1865 (17.1%)	1908 (18.6%)
	(40 +)	448 (14%)	393 (12.4%)	506 (15.8%)	496 (12%)
Total Sample	(< 40)	9,619	9,888	10,903	10,235
	(40 +)	3,207	3,165	3,211	4,130

Occupational Adult Student Enrollments By Age

The analysis of courses categorized as "occupational adult" (code 47) in Wisconsin technical college parallels the previous analysis of program students by presenting the data in number and percentage of the total sample. Similarly, the focus for each school year are the top ten enrollments by course for each age group. It is important to recall that the total sample sizes for the two age groups were nearly equal for each school year which facilitates comparison of age based performance.

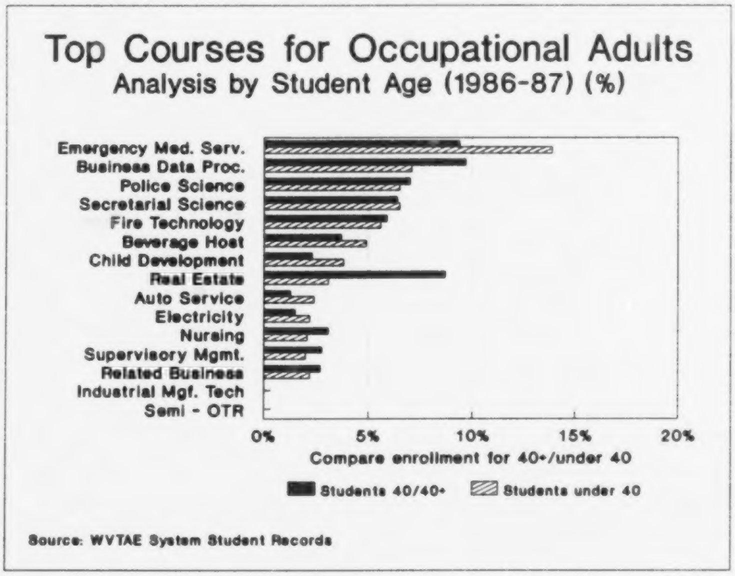
Occupational Adult Enrollments: 1986-87

Total enrollments in the sample are very close with 7,236 students under age 40 and 7,435 age 40 and over. First and second rankings flip-flop for the age groups with emergency medical services topping the list at 13.9 percent (1,083 students) for younger students and business data processing ranking highest at 9.7 percent (723 students) for the older group. In reverse order, 700 older students (9.4 percent) enrolled in emergency medical services with 513 (7.1 percent) younger students in business data processing. With the exception of real estate ranking third for older students, the occupational enrollments are consistent until the lower end of the rankings. Child development appears on the younger student enrollment and not on the older student list while nursing appears on the older student list and not younger. Some of the same areas of priority are represented as popular in the program area with the difference being the status of the student being enrolled in the course--a program student of the college or a student enrolled for occupational upgrading only.



Source: WVTAE System Student Records

Chart 17

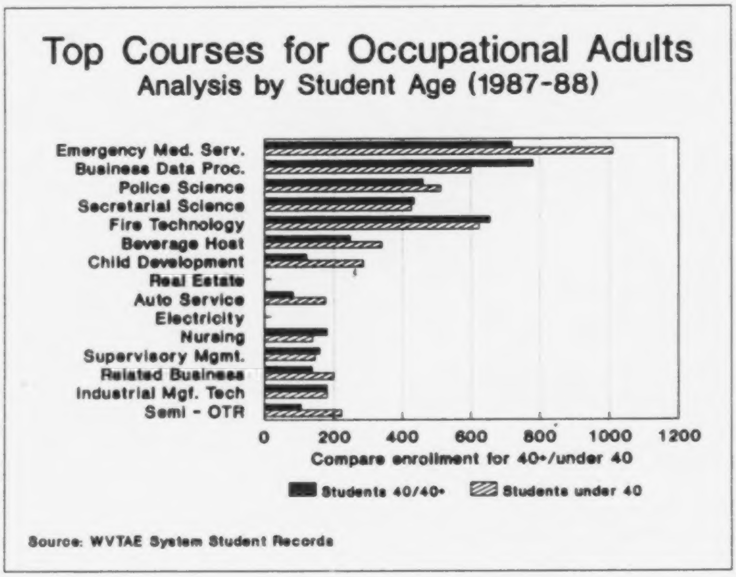


Source: WVTAE System Student Records

Chart 18

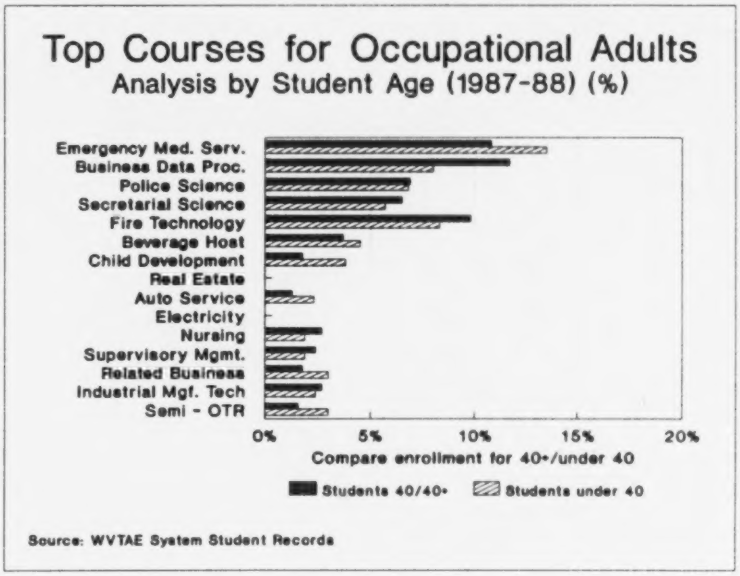
Occupational Adult Enrollments: 1987-88

Total enrollments shifted in this school year to an increase for younger students to 7,491 and a decrease for older students to 6,671 in the sample. Course enrollments remained relatively stable with the exception of fire technology. For younger students, fire technology surged to second place with 8.3 percent of enrollments and to third place among older students with 9.8 percent enrollments. New courses or required training among firefighters is a speculative, but likely, cause for the increase. Most other course areas had quite consistent ranking in the hierarchy of the listing.



Source: WVTAE System Student Records

Chart 19



Source: WVTAE System Student Records

Chart 20

Occupational Adult Enrollments: 1988-89

Total enrollment trends continued to pattern the previous year with an increase in the younger student group to 8,055 and a decrease in older students to 6,479 in the sample. Course enrollments parallel the previous year very consistently. There is a noted increase in the popularity of supervisory management courses among older students and its appearance on the younger student list for the first time. Child development appears on the older adult list for the first time and continues stable with the younger group.

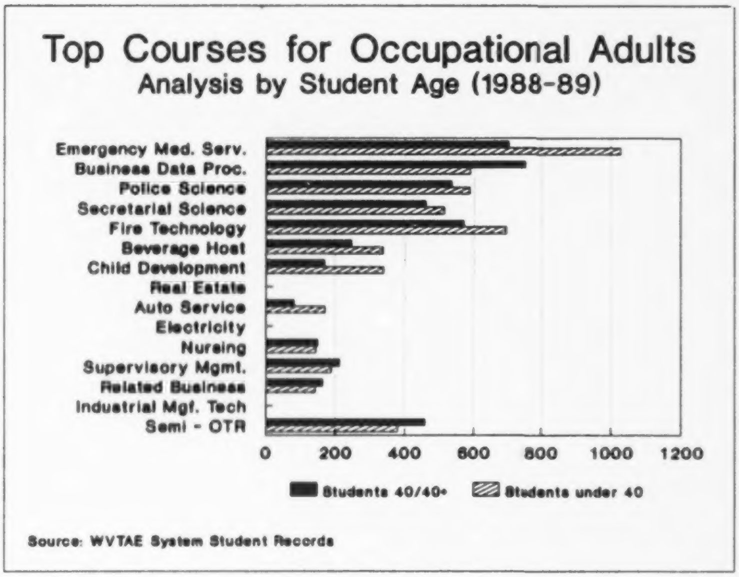


Chart 21

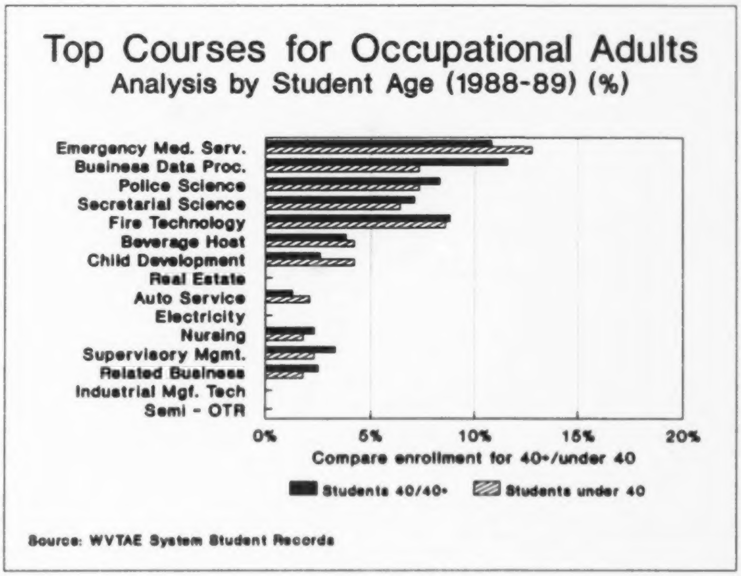


Chart 22

Occupational Adult Enrollments: 1989-90

The total enrollment picture shifted to the older student with an increase to 7,791 and a decrease among younger students to 7,110. This fluctuation to a more exact split resulted in identical rankings for the top three courses: 1) emergency medical services, 2) fire technology, and 3) police science. The high ranking business data processing lost ground in enrollment numbers and percentage among both age groups. Nursing and supervisory management topped their enrollments in the older student group in 1989-90 compared to the other three years in all age groups. For younger students, child development enrollment was highest this year than for any previous year or age group as was emergency medical services with enrollment of all courses in the occupational student study of 1,166 (16.4 percent) of total younger students.

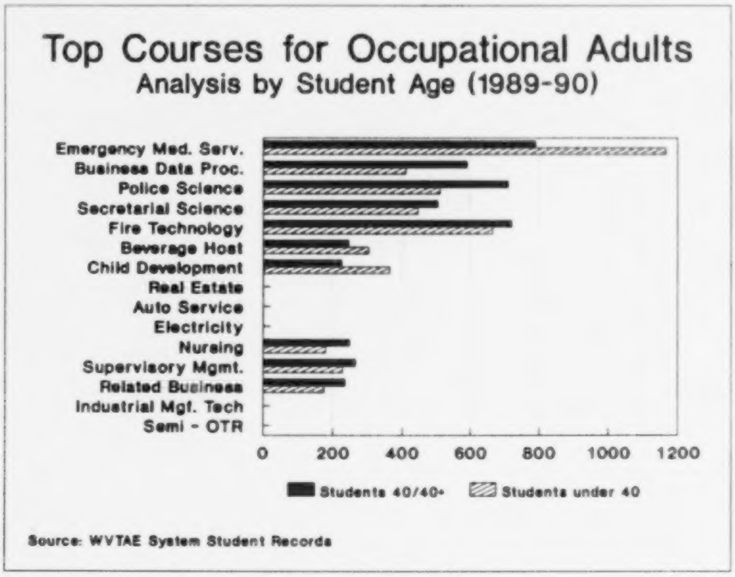


Chart 23

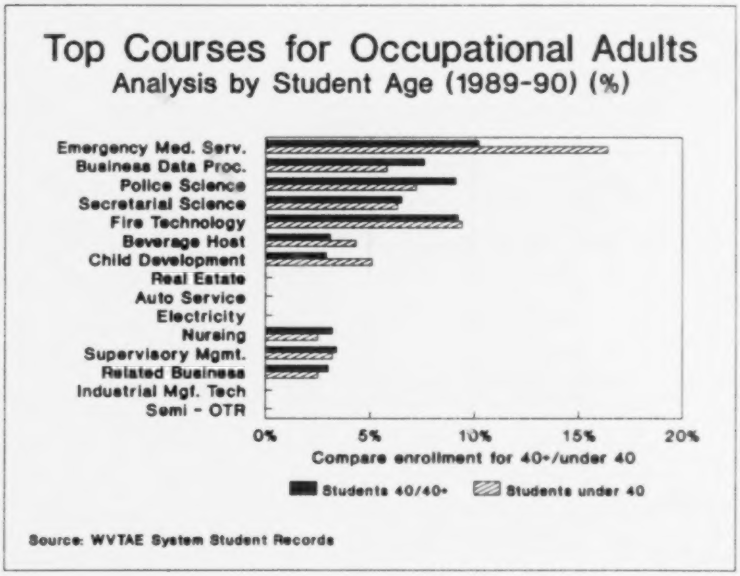


Chart 24

Occupational Adult Enrollments: Summary

Similar to the program enrollment analysis, age is not a significant factor in most course enrollments. Courses are popular for both age groups. For occupational training, the age mix of the work force is reflected in the enrollment patterns. What is enlightening is that the age of the worker in training is just as likely to be over 40 than under 40. This factor should have an influence on the design and marketing of courses and programs to older adults. As feeders to program enrollments, occupational courses could be a better resource for technical colleges if the programs were better designed with the older student customer in mind. Further exploration of this correlation is needed to identify the elements of the program design which require improvement to appeal to the growing older work force.

Concluding Remarks

This analysis of enrollments served to highlight the age composition of students in program and occupational courses in Wisconsin technical colleges. The most significant finding is the bold representation of the age 40 plus segment among technical college students. A quarter of the program students and half of the adults in occupational courses are people in their 40s, 50s, 60s, etc. Apparently, the services of the college have been appropriate and accessible enough to attract these older students. Yet, with the knowledge that this age group is growing, colleges have a great opportunity to learn more about the needs and motivation of education's more invisible customers. Wisconsin technical colleges would benefit from an annual report based on age from the state by total and by district. In addition, further investigation of the internal and external factors which influence enrollments would be a valuable piece of this analysis.

FOCUS GROUP OBSERVATIONS

4. Focus Group Observations

The topical literature on the aging work force provides a foundation for formulating the research inquiry of employers and older adult students. In preparation for the development of survey tools, two focus group sessions were conducted with representatives of each group to discuss the benefits of training and retraining through vocational education of the mid-life plus population and the barriers which limit participation.

The focus group approach typically involves five to ten members of a target group in a free flowing discussion based on structured questions designed to solicit interests, concerns, and ideas on select topics. This activity offers a practical dimension of data collection which compliments the literature review to insure that issues of concern are not overlooked in the survey instruments. In addition to helping shape survey questions, the focus group results are a source of validation for the quantitative phase survey.

The following sections provide a detailed review of the focus group responses. Participation in the focus group was encouraged by a small honorarium ($35) which was particularly appreciated by the older adult student group. Efforts were made to insure a mix of employers from different types of businesses and students from a variety of programs. Both focus group sessions were videotaped for future reference.

Employers' Focus Group

On October 18, 1990 a focus group of five local employers met at the Bordini Center of Fox Valley Technical College to discuss issues related to the aging work force. All five participants were human resource professionals employed in employee relations, personnel or training positions at their companies or organizations. Companies represented included: manufacturers, insurance, health care and small business.

Two moderators, Carol Mishler of the FVTC Research Department and Patti Frohrib of the Lifetime Development Initiative, led the 1 1/2 hour discussion. The purpose of the discussion was to identify problems in training an increasingly older work force and get employers' suggestions for initiatives that could be taken by technical colleges in training an aging work force. Another purpose was to lay the groundwork for a telephone survey of businesses on the aging work force issue.

At the beginning of the session, Patti Frohrib explained that the term "older worker" as it would be used in this discussion refers to the age 40+ worker, including aging baby boomers. The preretirement employee aged 50s or 60s is just one subset of older workers and was not supposed to be the only group under discussion.

Awareness/Perception of the Aging Work Force

Most of the employers in this group had produced data on worker age and had shared that data with managers. They generally had a good idea of the average age of workers at their company, which ranged anywhere from mid-thirties at one company to 48 in another. One participant knew specifically that the average age was 40.8 years. Another two people said the average age was in the forties. In general, these employers seemed knowledgeable about worker age and were active in producing data to show the age distribution of workers.

While some employers saw the work force continuing to age in the next 5-10 years, another felt the average age of his company's work force would decline as older workers retired. All seemed concerned about worker training and the aging work force.

Problems/Benefits of an Aging Work Force

The group discussed several problems that an aging work force will present to their companies. These problems were:

- Retirement of older workers may leave a void in the company when not enough younger workers possess the training and experience to replace them.
- Job obsolescence may occur for older workers whose jobs increasingly require greater technical skill. Younger workers who come in with technical skills may advance more rapidly than some older workers.
- It can be difficult for workers who have been doing production jobs for 15-20 years to make a transition to a management position.
- High-change situations in business and industry today appear to be more difficult for older workers to deal with than for younger workers. Thus an aging work force may not adapt as well to the transformational-type changes that some businesses are now experiencing.
- Older workers value benefits and it may be difficult to recruit them for part-time positions that do not include benefits. One employer described the lack of interest when older applicants heard about the lack of benefits. They were no longer interested in the positions, although the positions paid $6.00 an hour.

The benefits identified with having an aging work force included older workers having a strong work ethic, willingness to stay late in order to finish a job, for example. When others are "out the door when the bell rings," older workers will stay until the job is finished. The experience, maturity and loyalty of older workers is a plus. Employers mentioned that just the sheer number of older workers would be able to help with the coming labor shortage.

Training and Older Workers

The group did not feel that their training efforts were directed specifically at older workers. Certainly, they did not believe older workers were restricted (either subtly or overtly) from training opportunities. Rather, they structured training activities and opportunities without considering age.

Employers thought that there were certain types of training which older workers seemed to require more than younger employees. These training areas include:

- Basic computer skills, such as how to go from screen to screen on a computer, using the cursor, using electronic mail, particularly for an older manager who may now be asked to function without an administrative assistant.
- Basic calculator skills
- Supervision/management skills, especially for workers making the change from production to management and for older members of self-managing teams since younger people look to those older for decision-making.
- Training on dealing with change itself, such as the transformation training one employer's company used to introduce workplace change. This would be especially beneficial to older workers in times of massive changes in the structure of work.
- Study skills/time management

Employers noted that older workers may be more competent in math and writing than younger workers just coming out of school.

Barriers to Older Worker Participation in Training

Employers had no trouble citing barriers they felt older workers faced in participating in formal training. Only one employer (health care provider) noted that nurses did not seem reticent about participation in training, perhaps because learning is a way of life to them. They have never really been out of "the habit" of training so it is not difficult to get them to continue training. The other employers, however, agreed that it was somewhat more difficult to get older workers into training. Once older workers "got a taste of training" though, employers believed that they could become the most enthusiastic supporters of training.

The barriers mentioned were, for the most part, related to people's disposition toward learning, rather than to their life situations or to institutional barriers inherent in the operation of the technical college. The barriers they cited:

- Fear of failure, particularly for the older worker who has mastery of a given job function. Older workers who have enjoyed competency do not want to be made to look incompetent in learning situations.
- Fear of tests, which is related to fear of failure. It usually has been many years since they've taken a test in a class setting. One employer recalled a course he taught in which fully one-half of the class of older workers did not take the test. Upper managers were among those "high-ego" older workers who did not want to risk failure on a test.
- Older workers may not remember how to study or manage their time to complete assignments.
- Time and family are significant barriers for many middle-aged workers, especially when both husband and wife work outside the home.
- The expense of training can be a factor.

Training Initiatives of Companies

Employers had initiated training programs or changes in their programs that were aimed at increasing training for all of their employees, including older workers. Generally, these efforts involved establishing an on-site training facility and offering heavy financial and other forms of support to employees.

One employer described the development of an on-site training lab and a move to daytime training. Another noted her company had also converted a building into a training facility, but had moved away from daytime training into night training. The night training was supported with a "great tuition-aid" program and professional development funds from each work unit's budget.

A third employer had also put in an on-site lab, brought in technical college instructors, paid for books and offered released-time training during the work day. Although this was an expensive approach, this company felt it had been especially beneficial for the aging baby boomers who were at the point of being passed over due to training deficiencies. When older workers needed remedial work prior to training, the company just "gave it to them," whether employees found it embarrassing or not.

Effects of Training on Job Security for Older Workers

In downsizing, employers felt that training was only one factor that determined which employees would be retained. Union-related seniority systems and job function obsolescence were also factors.

When asked about the "floating to retirement" phenomenon in which older employees who no longer have the skills necessary to do their jobs are allowed to remain employed until retirement, all employers admitted that this does sometimes happen. They reasoned that these employees gave their time to the company and most companies would "let them expire" if they were close to retirement. Most companies want to avoid EEOC suits and are careful about the percentage of older workers who are put into outplacement pools or terminated.

Employers did little to try to predict which jobs would become obsolete. Rather, a gradual evolution toward automation and development of new services was constantly observed.

Initiatives to Retain Older Workers

Employers described several initiatives designed to retain older workers beyond normal retirement age or as an alternative to outplacement. These included:

- Giving older workers the job title of "consultant" and having them meet with management for two hours a week to give their perspective. Although they were financially demoted and replaced in their old position, they were retained and still listened to in the company.
- Arrangements to have the older worker put in fewer hours or come back part time after retirement. Employers noted that it would be "foolish not to bring them back." They lend stability to the company.

- For middle-aged women, the opportunity to increase hours or work full time as family responsibilities lessen was an initiative of benefit to the aging work force and to the company.

Marketing Initiatives for Technical Colleges

All employers had used Fox Valley Technical College in some capacity for training. One said the company uses FVTC if they cannot conduct the training themselves in-house. They had several suggestions for marketing training opportunities to their employees:

- Expand the mail list of people within a company that are targeted to receive news of training opportunities. One respondent noted that "not much crosses my desk," which she found somewhat odd considering her position in human resources. It is not enough to mail to one person per company.
- Hold an "open-house" at FVTC for training directors. Show training directors what training opportunities the school has to offer their employees.
- FVTC staff should make more company visits if possible. These staff should not be just economic development staff but program staff who are actually in a given training area.
- Publish a directory of FVTC staff to call for certain types of training. Some employers felt unsure of whom to call for what.
- Make the "beautiful marketing material" that FVTC produces even more available, perhaps locating an information center within the company where employees would have ready access to it.
- Create 5-minute videos on training available in different FVTC programs for occasions when an employee doesn't want to talk to a representative of FVTC but just wants quick information. This could be given out by the human resources personnel or be available in an FVTC information center at the company. It would complement the catalog, which was described as "fantastic" but almost overwhelming. A human resource person would not be able to explain every course there.
- FVTC staff could know better what business needs through visits to the company and seeing firsthand the training needs.
- Take a proactive approach by telling companies what other businesses are doing in training and upgrading, in essence, help business decide what they need to do.

Service Initiatives for Technical Colleges

Respondents' made several suggestions for initiatives that could be taken by technical colleges (including FVTC) to make training more accessible to workers. These included:

- Register students at the company level. Let the company collect the applications/fees and send them in. On-site registration would help some employees who cannot seem to fill out their application and get it to FVTC. This is a barrier for some employees.

- Deliver courses/training at the work site if needed. It is good to get workers away from the work site at times but on-site delivery is also needed.
- Technical colleges should work more closely with government agencies. People receiving unemployment compensation should see FVTC material as they register for unemployment. They could register for courses at the same time. Training beyond resume writing may be needed.
- Do more counseling in-house. Educational terms are unfamiliar to employees. For instance, the definition of credit may be foreign to employees.
- Training on change itself may be especially beneficial to older workers. This type of training can help employees accept change and should be mandatory.
- Outplacement training would be another valuable service that would prepare employees for change.

Wrap-Up

As a last item, respondents were asked to say anything about training and the aging work force that they would like--any final thoughts they had about the issue. They left the group with these observations:

- One respondent described a reworked pension plan in which a worker can now earn up to $1000 and still retain a pension. This was done.to retain older workers and offset a labor shortage.
- Another respondent reiterated that skills obsolescence was a burning issue and that this focus was on getting the current work force to the year 2000.
- Another respondent suggested working on the emotional aspects of change in the workplace and also on the physical needs that an aging work force may require.

Adult Student Focus Group

On December 6, 1990 a focus group of ten FVTC adult students met at Fox Valley Technical College to discuss their participation in vocational education. All but two of the students were also employed. Their ages ranged from 39 to 48, thus the group could be considered members of the aging work force who had pursued further vocational education at FVTC. They were pursuing course work and/or degrees in a variety of programs: technical nursing, supervisory management, pulp and paper, accounting, and AODA.

Two moderators, Carol Mishler of the FVTC Research Department and Patti Frohrib of the Lifetime Development Initiative, led the two-hour discussion. The purpose of the discussion was to identify the reasons the adults had resumed their education or training in their 40's and what barriers they had faced in doing so. Another purpose was to lay the groundwork for a telephone survey of students over age 40.

Motivating Triggers in Return to School

A variety of personal life circumstances had triggered the adult students in this group to resume their education. In several cases, a layoff (of either the respondent or a spouse) had prompted a reexamination of career goals. When the business which one respondent was in folded, he realized that he really didn't like the business at all and used the opportunity to retrain for another occupation. When the husband of another respondent was laid off, she realized the need to contribute financially to the family which prompted her to train for a higher-paying job.

In other cases, there was a realization that no career advancement existed in the jobs the respondents were in and they would have to get more education to improve their chances for advancement. For example, one person had been employed in the fitness field without a chance for advancement and enrolled in the nursing program. Another was injured on her part-time job and realized she would need more education for the advancement potential she wanted.

Children beginning school triggered another respondent to enroll. She "knew it was time" at that point. Apparently, changes in family, job, or health had caused respondents to reevaluate their goals and their need for more education.

Employer Role in Decision to Return to School

Respondents did not feel their employers had influenced their initial decision to pursue education. However, once they were in school, employers had supported their participation, quite strongly in some cases. None of the respondents described being approached by an employer to get more training or education. Rather, the decision had been their own, reached and acted upon without the employer. The closest situation to employer support for the initial decision was the case of one respondent whose employer put her in a supervisory role, giving her a taste of a new line of work. After her layoff, she decided to retrain for a line of work that would involve supervising others. But her employer never directly suggested further education.

Once enrolled, respondents said their employers had been "very supportive" and "real positive" about their schooling and had demonstrated their support in various ways. One respondent said she received "terrific" encouragement from her immediate supervisor in the day-to-day comments they exchanged. Another mentioned hospital tuition-aid plans for LPNs who want to pursue technical nursing degrees. In addition to tuition aid, flex time offered by employers was important. One respondent worked a split shift-type (work, go to school, go back to work) schedule that allowed her to attend classes. Another respondent received encouragement for schooling when her most recent evaluation was the best she ever had. Apparently, employers supported respondents with a combination of tuition aid, flex time, performance review "points," and old-fashioned moral support for their efforts.

Situational Barriers

When asked what life situations had posed barriers they had to overcome in their return to school, they mentioned:

- Lack of spouse support. This was the case with one respondent who later ended up getting a divorce; however, she was the only one of the ten that mentioned this barrier.

- Financial barriers. Respondents mentioned thinking "where am I going to get the money?" and worrying about the financial ramifications of changing their job status in order to pursue education.

- Family responsibilities. One respondent had four small boys at home and worried if she could get any quiet time to study at home.

- Being out of school for 25 years. Having been away from formal education for 25 years caused several respondents concern about whether they would be able to get into the habit of studying at their age.

Respondents did not see their past educational experiences as a major "failure" experience to overcome. Past education, however, was not remembered as a positive experience. For most respondents, experiences tended to be in the distant past, approximately 20 to 25 years ago. Past educational experiences had given some of the respondents the image of themselves as "just average," not someone who could do really well in school. When they did indeed do well at FVTC, it came as a surprise. Other respondents mentioned the nonexistent or sexist career counseling they experienced 20 to 25 years ago. Several women mentioned the low expectations their high schools (and in some cases, their families) had for them. Schools of that era were seen as dictating a stereotypical career field with little consideration given for individual interests and talents. Thus modern career counseling had come as a pleasant surprise. Finally, past educational experiences had not led respondents to develop study habits. One person mentioned that College Survival Skills had helped him to develop study habits.

Dispositional Barriers

Far more important than the respondent's life situation or past educational experiences, were the barriers posed by the attitudes and feelings (disposition) respondents themselves held. They described having to overcome:

- Fear of failure. "Am I going to make it?" was the question characterizing respondents' self-doubt and fear of going to school. Math deficiencies were a worry.

- Fear of not fitting in. Some respondents described their belief that they would be the only middle-aged people on campus and their worries of standing out. One respondent noted "of course, it wasn't that way at all" and that she would have enrolled sooner if she had known there were so many of her age group on campus.

- Lack of a definable goal. Some respondents described their lack of knowing exactly what they wanted to do as a barrier. They knew what jobs they didn't want to do but lack of a long-term goal made it hard to "take the plunge" with education.

- Difficulty of making that first appointment. Some respondents had been working up to returning to school for 10 to 15 years. Getting the courage to make the initial call to the school was needed to overcome the barrier of inertia.

Participation in GOAL

Respondents were asked what would be their reaction if they found they needed to take GOAL courses. Since fear of failure was a significant barrier to overcome, would GOAL courses be viewed as an aid or a further barrier to their success with education? Responses were mixed.

Several respondents described their reaction to being recommended for GOAL as "embarrassing" and "humiliating." One respondent was so uncomfortable in GOAL, he sped through a 12-week course in four weeks to get out as fast as possible. The impression was that GOAL is for someone who is "slower" and they didn't like to be identified that way. They also didn't like the delay in pursuing their program courses--now that they had finally decided to pursue a program, they wanted to get on with it.

However, an opposing viewpoint was expressed by one respondent who viewed GOAL not as something to rush through, but as her due: "I want it all." She pointed out that she was taking GOAL at the same time as her program course work, in contrast to what she had been advised, so she did not feel GOAL was holding her back from credit courses. She had also found an alternative to waiting for help with her hand in the air; she asked the instructor what she was going to need next and if she could get it herself.

Institutional Barriers

Respondents were asked what--if any--barriers had existed for them related to the operation of FVTC. One respondent had mentioned earlier the lack of night classes in the program he wanted to pursue. If not for that, he "would have done it (enrolled) years ago." Other institutional barriers that came to mind were:

- "Maze-like" layout of the building. Respondents described difficulty in finding rooms, getting lost (in front of the information desk!), and not knowing there was a second floor. They noted that their treatment at FVTC had been good and you do get used to the building. Picking up a map had helped several people. The layout didn't seem to be a serious institutional barrier, rather, "just something to joke about."

- Enrollment process. One respondent mentioned the amount of information he had to provide to enroll--birth certificate, high school records, etc. It is hard for adults to access that amount of past information. It was especially hard to get it together on short notice, such as when you come up on a waiting list.

- Waiting lists. Having to wait for 6 to 9 months or longer to enroll in a program once they finally got the courage to come in the door was a barrier. Lack of information about their position on the waiting list and the suddenness with which they were finally thrust into classes was frustrating. The waiting list was seen as a "power tool" of the college. There was the perception that if you didn't happen to answer your phone when your turn came, you lost your chance.

- Lack of knowing the informal rules of the system. One respondent described arriving at registration at the appointed time to find many others came even earlier to get the best schedules. She wished she had known that you should go extra early to get the class times you want.

- Inadequate progress reports. Some people mentioned lack of information on how they were doing in a course added pressure.

- Rescheduling of class times and rooms. Changes in class times posed barriers for working adults who arranged their work schedule around classes only to find at the first meeting that the time had been changed. Cancellations were also a barrier.

- Testing procedures. Respondents mentioned several things related to testing--their misinterpretation of their test scores, testing in a room that was too small, and the proctor talking on the phone during the test.

Greatest Barriers

Respondents were asked of the three types of barriers discussed, which type was the greatest for them to overcome. They agreed that overcoming your own fears, or dispositional barriers, posed the most difficult hurdle for them. One person mentioned the lack of evening degree programs as the greatest barrier. Another respondent pointed out that it wasn't just your own disposition but the disposition of one's employer that could pose a barrier. If the employer is negative about the "average" (nonmanagement) worker pursuing education, it can pose a big problem because most workers "have to have that job."

The attitude of the group was that you can find barriers in any undertaking but you can find a way to make it work.

Information Resources

Respondents had heard about FVTC in a variety of ways. One had been come to the building for a driver's course and saw pamphlets that led her to see a counselor. Another saw a pamphlet in the public library ("Don't Take Being Laid Off Laying Down") which led her to the PIC office which in turn led to the Job Club at FVTC which in turn led to her enrollment. Thus, there was often a sequence of events that eventually led the person to FVTC. Other respondents had learned of an FVTC program through word-of-mouth in their families or at work (their own or their spouse's). This was the case with nursing students, particularly. Others first learned of offerings through the course schedule and the Sunday newspaper. Apparently, several information channels had been effective with this group.

Is Promotion Effective?

When asked whether promotion and information about FVTC is effective in reaching adults like themselves, respondents thought that more could be done. They noted that many people want to return to school but are afraid. They suggested these promotional efforts:

- Seminars for adults. These could take the form of conferences or coffees' that would bring adults face to face with adult students who had "made it." This type of event should be geared for the middle-aged person, distinct from Career Night, and could be held at FVTC or in a neutral (less threatening) setting like the Paper Valley Hotel.

- Hold seminars at companies, along with career testing and more advertising in the workplace.
- Programs like Starting Point, which are enjoyable and allow you to stay in one room with others like yourself.
- TV ads, if geared to adults. Stress education, not Career Night-type copy.
- Advertise evening degree programs, if there are any.
- Promote FVTC at Singles Clubs or other groups that attract people who are starting over.

Service Improvement

Respondents were asked how services to people of their age could be improved. They mentioned more assistance with student employment in getting part-time jobs appropriate for people of their age, more sensitive testing situations, and having a "forum" for adult students in the September block that would function as a sort of support group.

They viewed the reasons for some adults not "making it" at FVTC as being related to their job demands. It's hard to work while going to school and some people get totally overloaded. If a person has an initial failure in class, they may not recover. They wondered if someone called these people? Or if a student doesn't show up for class, does anyone call? They thought that a personal call would be a good retention technique. They saw family responsibilities as a barrier for adults staying in school, especially in single parent families. Trying to take too many credits (or being advised to do so by counselors) could cause some people to go into overload. Shift-switching could prevent some adults from staying in school. Video courses and correspondence courses could help with shift work, one respondent noted.

Wrap-Up

Respondents were asked to make one final statement that they would like people at FVTC to know. Their statements were personal and full of gratitude toward the college:

- I would have stayed longer if I had received more support from others.
- Make up your own mind and ask a lot of questions.
- I was tickled to get to class and find I was one of the youngest there! It was wonderful.
- It taught me a lot and I'm glad I made the decision. It's hard but I will finish. My income has almost doubled...my company is into education.
- I am finally realizing my dream. It's my turn now.
- Positive strokes are real important. Hearing "good job" from a teacher lasts a long time.
- For my personal well-being, I am glad FVTC is here. It's been wonderful.
- Frightening as it is to return, to spend the rest of your life thinking of what you could have done is more frightening--and a waste.
- It's tough, difficult, but I'm glad I did it. It's for me.

Participants

(First names have been changed to protect identities.)

Name	Age	Employment	Program
Roy	48	Packaging Specialist	Supervisory Management
Laura	39	McDonald's	Accounting
Kris	40	Not employed	Nursing
Mary	45	Welder	Supervisory Management
Sue	41	LPN	Nursing
Jean	48	Assessment Tech.	Supervisory Management
Joyce	43	Health Exchange Worker	Technical Nursing
Bob	47	PT-Lab Work	AODA
Julie	45	Unemployed	Nursing
Cathy	45	Children's Group Home Employee	Nursing

Summary Comments

As part of the aging work force research study, two focus group sessions were formally conducted with small groups of employers and older adult students (age 40 +). Another less formal session was conducted with an internal task force to identify any additional information needed to include in the surveys of each group. The task force concurred with the information provided by the focus groups. Concerns were raised regarding the fragmented system of student services which may cause problems for adult students. Efforts to break down internal barriers were suggested. Exact measures were unclear but perceived barriers could be confirmed or negated in the full survey. There was interest in more direct marketing for adults and employers. Internal staff suggested that technical colleges learn from successful models of service provision and marketing tailored for the older adult student. In addition, the track records of leading companies in educating their work force should be showcased to inspire similar activities in other businesses. Technical colleges could play a vital role in advancing awareness of work force training practices as skill needs rise in the competitive environment of the future.

ANALYSIS OF SURVEYS

5. Analysis of Surveys

Employers and older adult students were surveyed to establish a base of information on the aging work force and training from two key perspectives. Technical colleges benefit from insights based on this duo customer analysis. In addition to responding to educational needs, technical colleges can use this information to be better resources for their customers in a practical manner.

Survey of Employers

A subset of the statewide sample used in the 1991 Governor's Commission on a Quality Workforce study was obtained from Wisconsin Survey Research Laboratory (WSRL) for the employer survey. Using data from the Wisconsin Department of Industry, Labor and Human Relations, WSRL, created a random, stratified sample of 3,500 firms so that the results of the survey reflect the actual distribution of firms in Wisconsin by number of employees, industrial classification, and location. The sampling was targeted toward industries that both depend most heavily upon skilled workers and form the economic base of the state: durable and non-durable goods manufacturing, construction, health services, and business services.

For purposes of sampling and analysis, firms in the five industry groups were subdivided by number of employees into three size categories: small (10 to 49 employees); medium (50 to 249 employees); and large (250 or more employees). Due to difficulties in interpreting responses, firms with fewer than ten employees were excluded from the sample. Firms in the 15 industry by size groups were further subdivided by location in urban or rural counties. For purposes of the sample, counties included in part of a U.S. Census-designated Metropolitan Statistical Area (MSA) were considered urban, all other were considered rural.

Four hundred employer names from northeastern Wisconsin (Region V) formed the survey sample pool. From these 400 employers, a quota sampling method was used to complete 100 telephone interviews. Interviewing continued until 33 small, 33 medium and 34 large sized companies were interviewed.

Questionnaire

A 16-point questionnaire, "Employers Survey-Aging Work Force Project," was designed to address the major research questions of the study as represented in Appendix A. Questions 1 to 3 focused on the age composition of the work force of companies surveyed. Questions 4 to 9 addressed employee motivation, support and barriers to continuing education. Employers' perceived needs of their employees for training were covered in questions 10 to 12. Finally, questions 13 to 15 dealt with how technical colleges have and can further assist with employee training. Question 16 addresses projected changes in work force size.

Input for the development of the questionnaire was attained from the state VTAE Adult Continuing Education/Economic Development Administrators. Input was also gathered from a focus group of five employers discussing issues of an aging work force (see Chapter 4. Focus Group Observations). Additionally, the instrument was reviewed by the research managers at Chippewa Valley Technical College and Western Wisconsin Technical College as well as the research manager and lifetime development specialist at Fox Valley Technical College.

The questionnaire was pilot tested with five sample interviews. Although the survey was longer than preferred (15 minutes), the decision was made not to delete items, even though it could and did result in some employer refusals for completion.

Procedures

Marketing student interns at Fox Valley Technical College conducted telephone surveys to enlist employer responses to the questionnaire. The surveying activity commenced after the students received a full briefing on the purpose of the survey, all questionnaire items and participated in a practice session. The three student interns were initially trained in telephone interviewing by Fox Valley Technical College's research manager and were, at the point of this survey, experienced interviewers.

The contact procedure involved making the call and following the opening "script" as outlined on the first page of the questionnaire (Appendix A). As part of the survey procedure, the telephone interviews asked to speak to the person responsible for employee training and education. The survey was then completed by employers choosing to participate. Interviewing continued until the established quota sample was met.

Response Rate

Based on the total companies called (180), the research activity resulted in a completion rate of 56 percent (100 respondents) and 30 employer contacts refusing to complete the telephone survey. Reasons for refusal included the survey length, the fact that they did not offer employee training of any type, or because they did not see the issue of an aging work force as being relevant to their company. This response rate still compares very favorably to the typical response to a mail survey. Based on the total company contacts reaching an appropriate respondent (130), a completion rate of 77 percent was attained. Mailing the survey was not offered as an option.

Data Analysis

The data collected from the questionnaire was tabulated by the Fox Valley Technical College research unit. Frequency distributions for all questionnaire items were produced as well as means for any items rated on a 1 to 5 point Likert scale. Data was also cross tabulated by company size. Additionally, frequency distributions for employers who estimated that 33 percent or more of their work force was over the age of 40 were prepared to compare their perceptions of training needs with the total group.

Open-ended questionnaire items were analyzed using standard content analysis techniques. Employer responses expressing similar themes were grouped into response categories.

Profile of Employer Respondents

As depicted in Chart 25, 59 percent of the companies completing the survey were in manufacturing, 20 percent in health services, 15 percent in construction and 6 percent in business services. Equal distribution of small, medium, and large firms resulted in 33 percent representation of each size firm. Observations based on the size of the firm may require further verification. Of the respondents, 67 percent projected that the size of their work force would increase over the next five years, 30 percent indicated it would remain the same, 2 percent were unsure and only 1 percent expected their work force to decrease in size (see Chart 26).

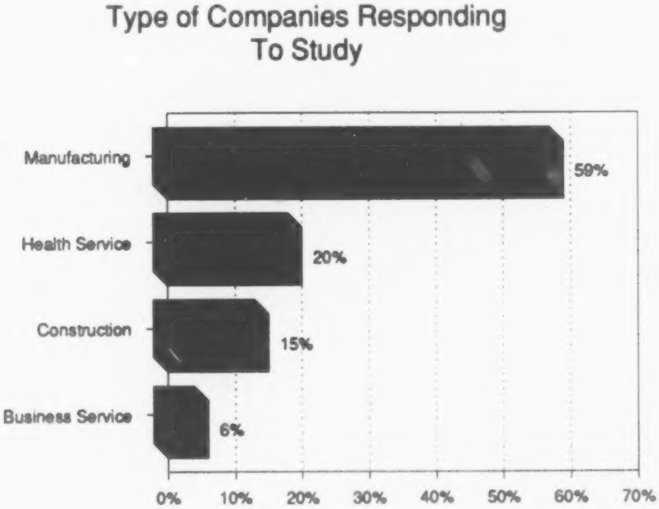
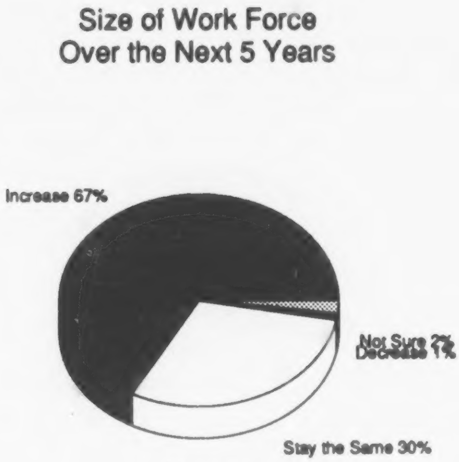


Chart 25



Size of Work Force
Over the Next 5 Years

Chart 26

Age Composition of the Work Force

The average age of employees was 40-45 for 10 percent of the employers responding. Sixty-three percent of employers currently show an average work force age ranging between 30 and 40. This is the group that represents the significant aging demographics in the work place as depicted in Chart 27.

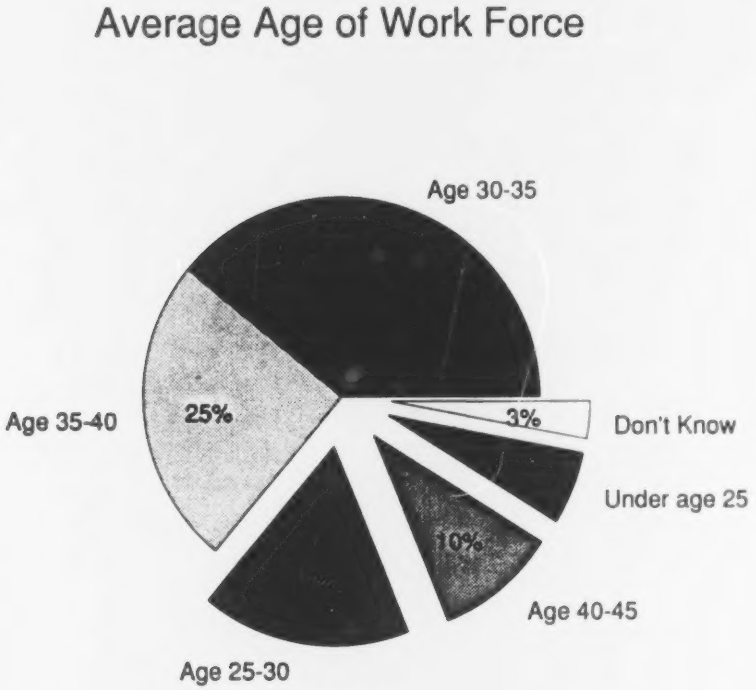


Chart 27

Table 1 provides breakdown information on the percentage of the work force over age 40 by company size. The data shows very little variance in this age percentage with company size, ranging between 32 and 35 percent of the work force over age 40.

Table 1

Percentage of Work Force Over Age 40 (By Company Size)

Small		Med.		Large	
No.	%	No.	%	No.	%
33	35%	30	32%	32	34%

In projecting their work force age composition over the next five years, 53 percent of the employers expect the average age to increase, 34 percent expect it will remain the same, and 11 percent expect a decrease in the average age (see Chart 28).

Average Age of Work Force
Over the Next 5 Years

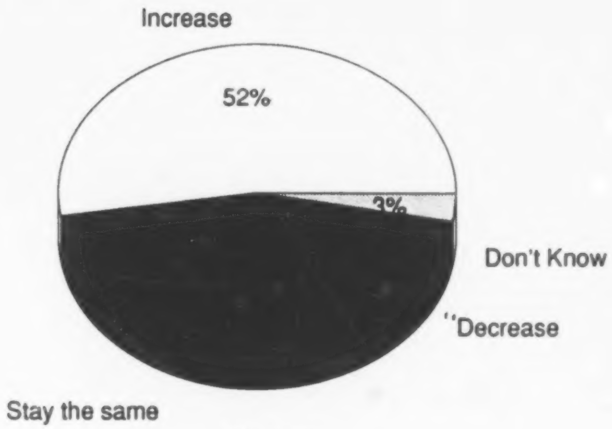


Chart 28

Employee Motivation, Support, and Barriers

The mean rating by employers on the difficulty of motivating their employees toward training and education was 2.40 on the five point Likert scale with a standard deviation of .96. By comparison, the mean rating of difficulty in motivating employees over age 40 was 2.64 with a standard deviation of 1.16. This data indicates that it is somewhat more difficult to motivate older employees in terms of continuing education, however there is less agreement among the respondents on this rating. As Tables 2 and 3 show, 9 percent of respondents indicated significant difficulty (ratings of 4 to 5) in motivating employees in general, compared to 22 percent with significant difficulty in motivating the older (over age 40) workers.

Table 2

Difficulty in Motivating Employees to Participate in Training/Education

Level of Difficulty		N	%
(Not at all difficult)	1	20	20.4
	2	30	30.6
	3	39	39.8
	4	7	7.1
(Very difficult)	5	2	2.0
N = 98			

Table 3

Difficulty in Motivating Employees Over Age 40 to Participate in Training/Education

Level of Difficulty		N	%
(Not at all difficult)	1	18	18.4
	2	28	28.6
	3	30	30.6
	4	15	15.3
(Very difficult)	5	7	7.1
N = 98			

Through the use of open-ended questions, the survey asked employers to identify factors that they believed prevent employees, both under and over age 40, from participating in training. The results as provided in Table 4 show major differences in these perceived factors for younger and older workers. Time was identified in 34 percent of the responses to be the main thing preventing employees under age 40 from participating in continuing education, followed by attitude at 17 percent. Employers felt that resistance to change is the key factor for employees over age 40 with 39 percent of the responses focused here.

Table 4

Factors that Prevent Employees From Participating in Education/Training

	Under Age 40		Over Age 40	
Factors Identified	**N**	**% of Resp.**	**N**	**% of Resp.**
Resistance to change	0	0.0	25	38.5
Time	24	33.8	7	10.8
Lack of motivation	8	11.3	7	10.8
No perceived need	4	5.6	7	10.8
Fear	1	1.4	3	4.6
Family responsibilities	6	8.5	3	4.6
Near retirement	0	0.0	3	4.6
Attitude	12	16.9	1	1.5
Other	16	22.5	9	13.8
	71	100.0	65	100.0

Employers were asked what their companies do to encourage and support the participation in training and education by their employees. Chart 29 identifies the ways in which the companies surveyed sponsor employee training. Ninety-one percent of the respondents provide time for training during the work day. Eighty-three percent offer some sort of tuition assistance for course work and 77 percent distribute information about education and training opportunities to their employees. Seventy-one percent of employers surveyed allow flexible scheduling of work hours to support continuing education while 66 percent offer promotion opportunities to employees who complete additional training.

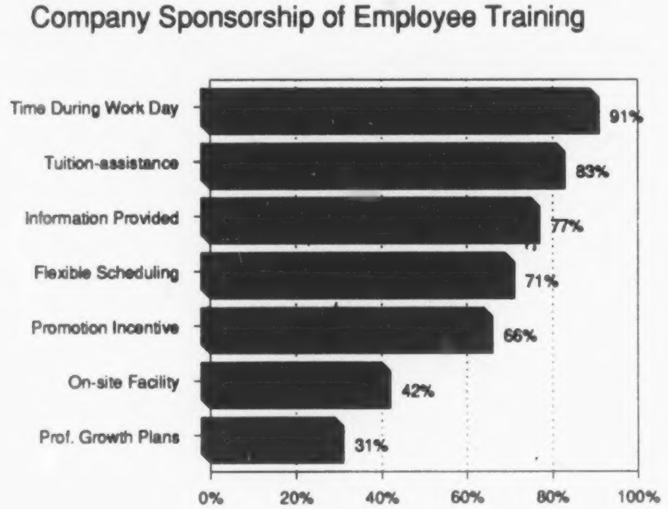


Chart 29

In identifying actual barriers that employees over age 40 need to overcome before enrolling in training and formal continuing education, employer responses are charted in Chart 30. The most significant barrier identified by the response "very much" a barrier was the lack of recent experience with formal education (time out of school), attaining a 32 percent employer response. This response was followed closely by lack of time at 29 percent and family demands and responsibilities at 27 percent. When the "very much" and "somewhat" responses to barriers are combined, the same three items surface to the top of the list--family responsibilities and demands (78 percent), lack of time (76 percent) and lack of recent experience with formal education (70 percent).

Barriers to Training for Employees Over Age 40

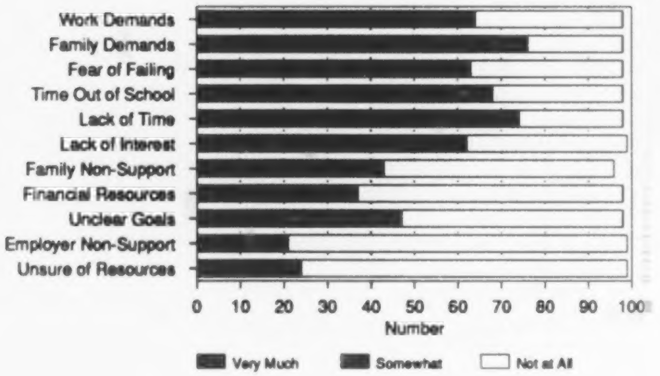


Chart 30

Employers were provided with 13 subject or skill areas and were asked to rate the need for training in each, using a 5-point Likert scale, by their employees over the age of 40. The mean ratings and standard deviations were calculated for each subject and provided in Table 5. The highest need for training or upgrading of this age group was the in computer area with mean ratings of 3.61 and 3.33 for computer applications and computer literacy, respectively. Employers surveyed observed basic skills as the lowest need area for their older employees, with reading rated a mean of 2.34, math at 2.48 and writing rated at 2.57.

Table 5
Training Needs of Employees Over Age 40

Subject	Mean Rating	Standard Deviation
Computer applications	3.61	1.46
Computer literacy	3.33	1.42
Problem solving	2.97	1.19
Critical thinking	2.95	1.16
Leadership	2.89	1.09
Oral communication	2.88	1.17
Motivation and goal setting	2.86	1.06
Listening	2.73	1.09
Learning how to learn	2.70	1.14
Teamwork	2.63	1.09
Writing	2.57	1.15
Math	2.48	1.15
Reading	2.34	1.09
Likert scale: 1 = Not at all 5 = Very		

When the responding employers compared the overall training needs of their employees over age 40 and employees under age 40, there was more agreement toward similarity than differences between these groups as shown in Table 6. The majority of employers, 48 percent, see some similarities, with 33 percent indicating a great deal of similarity and 19 percent seeing no similarity in needs. In clarifying their responses, the majority of employers seeing the needs as very similar indicated that their employees have very similar job duties, thus similar training needs. Experience and commitment were the key variables identified by employers who see their needs as being very dissimilar.

Table 6
Comparison of Employee Training Needs Over and Under Age 40

Training Needs of the Two Age Groups	N	%
Very much alike	33	33.3
Somewhat alike	47	47.5
Not at all alike	19	19.2
N = 99	99	100.0

Northeast Wisconsin technical colleges have been used to address the employer needs for training as indicated by the employers surveyed and shown in Chart 31. Most commonly, 78 percent of the companies have sent employees to courses at the technical college. Sixty-seven percent of employers have distributed technical college course information to their employees. Technical college facilities have been used by 52 percent of the respondents and 36 percent have contracted with the VTAE system for on-site training at the company. Fifteen percent of the employers surveyed have not utilized the technical colleges to address employee training needs.

How Employers Have Used
Technical Colleges for Training

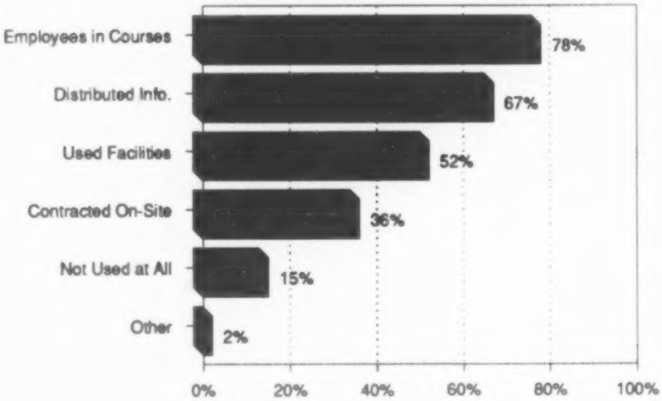


Chart 31

In looking for ways that the technical colleges could provide greater assistance and customer service to local employers in work force training, respondents were asked to indicate how helpful a series of related services would be to them. Tables 7 - 14 provide information on the responses to these services and the data is broken down by company size.

Table 7

Service: Providing Multiple Copies of Technical College Offerings

	Small Companies		Medium Companies		Large Companies		Total Responses	
Degree of Helpfulness	N	%	N	%	N	%	N	%
Very	5	15.1	5	15.6	10	30.3	20	20.4
Somewhat	15	45.5	14	43.8	15	45.5	44	44.9
Not	13	39.4	13	40.6	8	24.2	34	34.7
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

Providing multiple copies of technical college service and course offerings would be most helpful to larger employers, with 76 percent indicating that this service would be somewhat or very helpful to them. Sixty-five percent of all respondents see this as a helpful service to enhance employee development.

Table 8

Service: Open House at the Technical College to Provide Training Information

	Small Companies		Medium Companies		Large Companies		Total Responses	
Degree of Helpfulness	N	%	N	%	N	%	N	%
Very	1	3.0	3	9.4	5	15.2	9	9.2
Somewhat	12	36.4	18	56.2	17	51.5	47	48.0
Not	20	60.6	11	34.4	11	33.3	42	42.9
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

As indicated in Table 8 above, holding an open house at the technical college focusing on training information draws moderate interest from employers. Larger companies indicate that this service would be more helpful to them (67 percent of those respondents) versus small companies (39 percent of those respondents). Overall, 57 percent of employers see this activity as being somewhat or very helpful, but only 9 percent rate it as very helpful.

Table 9
Service: Meeting With Technical College Staff On-Site At the Company

Degree of Helpfulness	Small Companies		Medium Companies		Large Companies		Total Responses	
	N	%	N	%	N	%	N	%
Very	0	0.0	1	3.1	1	3.0	2	2.1
Somewhat	6	18.2	16	50.0	14	42.4	36	36.7
Not	27	81.8	15	46.9	18	54.6	60	61.2
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

Table 9 above shows that 61 percent of the employers indicate that meetings on-site with technical college representatives would not be helpful to them. This is particularly true for small companies, with 82 percent seeing this service as not helpful. However, significant numbers of medium to large employers agree, with 47 percent of the medium and 55 percent of the large employers responding the same way. Forty-six percent of medium to large companies see this activity as somewhat helpful and only 3 percent view this as a very helpful service.

Table 10
Service: Providing a Directory of Who to Call At the Technical College for Training Services

Degree of Helpfulness	Small Companies		Medium Companies		Large Companies		Total Responses	
	N	%	N	%	N	%	N	%
Very	12	36.3	19	59.4	23	69.7	54	55.1
Somewhat	12	36.4	12	37.5	8	24.2	32	32.7
Not	9	27.3	1	3.1	2	6.1	12	12.2
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

Table 10 shows that, overall, 88 percent of the employers are somewhat or very interested in receiving a directory of who to call at the technical college for specific training needs. Fifty-five percent would find this service to be very helpful. Once again, the larger the company, the more interest there is for the service from the technical college.

Table 11
Service: On-Site Educational Information Centers

Degree of Helpfulness	Small Companies		Medium Companies		Large Companies		Total Responses	
	N	%	N	%	N	%	N	%
Very	0	0.0	5	15.6	6	18.2	11	11.2
Somewhat	8	24.2	14	43.8	18	54.5	40	40.8
Not	25	75.8	13	40.6	9	27.3	47	48.0
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

Fifty-two percent of the employers surveyed view on-site educational information centers set up by the technical college, including videos and printed materials about training and education opportunities, to be somewhat or very helpful. Once again, there is a direct correlation between level of interest and company size, with 73 percent of the large employers, 59 percent of the medium-sized and only 24 percent of the small employers interested in this service.

Table 12
Service: On-Site Registration for Courses Convenient to Employees

Degree of Helpfulness	Small Companies		Medium Companies		Large Companies		Total Responses	
	N	%	N	%	N	%	N	%
Very	2	6.1	9	28.1	10	30.3	21	21.4
Somewhat	5	15.1	12	37.5	11	33.3	28	28.6
Not	26	78.8	11	34.4	12	36.4	49	50.0
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

The overall response data as shown in Table 12 above shows that employers' view on on-site registration as a convenience to employees is virtually split. Fifty percent do not see this as a helpful service; 50 percent see it as somewhat or very helpful. Large- and medium-sized companies have provided a very similar response on this question with 64 and 66 percent respectively, indicating that this service would be somewhat or very helpful; and of the small companies, 21 percent show interest.

Table 13
Service: One-to-One Educational Information to Employees On-Site

	Small Companies		Medium Companies		Large Companies		Total Responses	
Degree of Helpfulness	N	%	N	%	N	%	N	%
Very	0	0.0	4	12.5	2	6.1	6	6.1
Somewhat	5	15.1	12	37.5	18	54.5	35	35.7
Not	28	84.9	16	50.0	13	39.4	57	58.2
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

Fifty-eight percent of employers did not see the provision of one-to-one educational information to their employees on-site as being helpful in addressing their training needs. Forty-four percent were somewhat or very interested in this service. Larger companies, again, saw more value in the service than smaller companies as Table 13 shows.

Table 14
Service: Offering Courses at the Work Site

	Small Companies		Medium Companies		Large Companies		Total Responses	
Degree of Helpfulness	N	%	N	%	N	%	N	%
Very	1	3.0	6	18.7	9	27.3	16	16.3
Somewhat	4	12.1	11	34.4	11	33.3	26	26.5
Not	28	84.9	15	46.9	13	39.4	56	57.2
Totals:	33	100.0	32	100.0	33	100.0	98	100.0

As far as the technical college offering courses at the work site, the survey findings show that, overall, 43 percent of the respondents think this activity would be helpful in addressing employee training needs. Of the large companies, 61 percent see this as being somewhat or very helpful. Fifty-three percent of medium-sized companies and 15 percent of small employers see this as a helpful service.

Summary of Employer Survey

The majority of employers surveyed (63 percent) identified the average age of their work force to be between 30 and 40, yet only 53 percent of these employers project their average employee age to increase over the next five years. Based on the current literature projections, one would conclude that the awareness level of and sensitivity to an aging work force by today's employers is only moderate at best.

The degree of difficulty employers experience with motivating their employees toward education and training was only moderate (approximate mean of 2.50 on a 5.00 scale); however, there is some evidence that it is somewhat more difficult to motivate the older worker toward involvement in continuing education. Employers identified resistance to change as the most prevalent factor preventing older workers from participating in education/training and time as the key factor preventing involvement of younger workers. There were significant differences in the area of motivation and barriers between younger and older workers as perceived by the employers.

Family demands and responsibilities, lack of time and lack of recent experience with formal education were the key barriers that employers perceive as necessary to overcome before older workers will enroll in training/continuing education. Employers were really not sensitive to some potentially underlying barriers to training for their employees. Namely, they view themselves, as employers, to be the least significant barrier and they also feel their employees know how to identify the resources, services, etc. for continuing their education.

The employers surveyed view themselves as being very supportive of training and education for their employees. This is evidenced in that only 21 percent of employers see themselves as at least somewhat of a barrier to employee development. High levels of employer support for training was also evident in the sponsorship activities including scheduling time for training during the work day, providing tuition aid, providing information on educational opportunities to employees, flexible scheduling and promotion incentives for continuing education. However, the fact that only 31 percent of the employers have developed professional growth plans for their employees is testimony to the rather loose nature of work force training today; it is not very formalized.

The mean ratings in the survey data related to the training needs of older workers were very mid-range (roughly 2.50 on a 5.00 scale) suggesting that employers really don't have a good understanding of their employee skill needs. The technical areas of computer applications and computer literacy were identified as the highest areas of skill need followed by areas related to the new organization of work (problem solving, critical thinking, leadership, communications, etc.) and lastly, basic skills. These results are quite consistent with the literature. In general, older workers seem to have a stronger foundation in basic skills, enabling them to handle more technical training without extensive remediation, again from the employers' perspective.

Employers don't see the training needs of younger and older workers to be particularly different. Therefore, we can conclude that training in the workplace will be handled much the same for all employees, regardless of age. They don't seem likely to implement special programs for their older workers.

Overall, the technical colleges have been widely used as a training resource by the employers surveyed. In addressing ways that the technical colleges could provide greater assistance to employers in work force training, there is a direct correlation between company size and the interest level in additional VTAE services. The larger the company, the more likely they are to see the services of the technical colleges to be valuable and helpful in addressing their employee training needs.

2

Survey of Adult Students

The purpose of the telephone survey of adult students (age 40 and over) was to retrieve direct input regarding the educational experience of this age group within the Wisconsin Technical College system. Specifically, the survey objective was to identify real and perceived barriers to participation in vocational education and motivations to pursue continuing education at mid-life and older. The role of their employer was explored to observe the incidence of supportive or restrictive relationships. Knowledge of this nature is important for technical colleges in order that educational services are tailored to the needs of this growing segment of the population.

Survey Methodology

Two hundred adult students age 40 and older who had enrolled at Fox Valley Technical College within the past two years (since the 1988-89 school year) were randomly selected from a pool of 800 students. The survey pool was equally divided into program and nonprogram (occupational adults--aid code 47) students for comparative purposes. The sixteen item questionnaire required approximately 15 minutes to complete. The telephone interviews were conducted by students and graduates of the FVTC Marketing program over a three-week period in March/April of 1991.

The margin of error for a sample size of 200 is about plus or minus 7 percent at the 95 percent confidence level. For certain response percentages especially with high rates of consensus (such as 90 percent of a particular response), and low variation rates, the margin of error would be as low as plus or minus 5 percent. This information is useful for other technical colleges considering the representation these results give for their population. The need to replicate the survey may be minimized for districts with a student profile similar to that of FVTC. Colleges interested in replication of the survey may replace the high consensus items with items which require further clarification of district specific issues. The length of the survey tools appeared to be at a maximum time level.

Organization of Survey Analysis

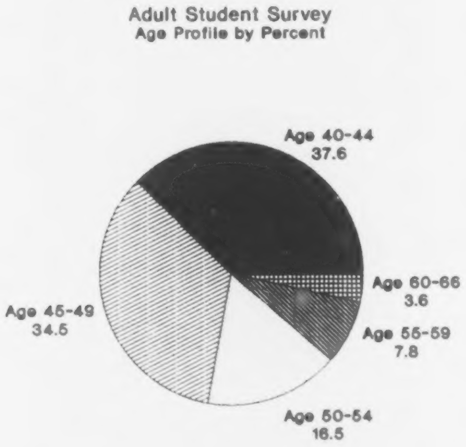
The following section provides an analysis of the adult survey findings. A profile of the adult student responses precedes the survey results. The responses are observed as a percent of total with further study of the differences and similarities noted in the program and nonprogram responses. Finally, survey findings which suggest the need for further research to clarify an issue of importance is noted and summarized. The analysis follows the order of the telephone survey questionnaire. A sample survey form is included in the appendix of this report.

Profile of Survey Respondents

One hundred program students and 100 nonprogram/occupational adults (age 40+) who were enrolled in a program or course at Fox Valley Technical College within the past two years participated in a telephone interview. Respondents were residents within the College's five-county district located in northeastern Wisconsin. This area of Wisconsin is characteristic of typical state manufacturing areas mixed with service and health industries. However, the Fox Valley is dominated by industries related to the paper industry. The years between 1988 and 1991 have been growth years with strong economic trends and relatively low unemployment rates.

Age and Sex of Respondents

Older adult student ages ranged from age 40 to 66 with the majority of the students (72 percent) in the age 40-49 range.



Adult Student Survey
Age Profile by Percent

Source: FVTC Adult Student Survey, 1991

Chart 32

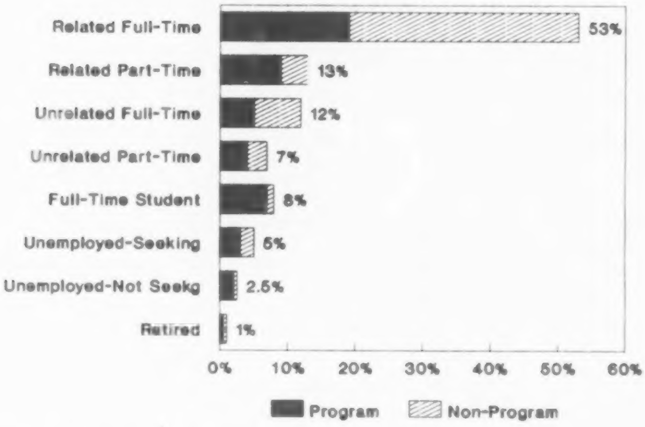
Program students tended to concentrate toward the younger end of the age scale. The highest concentration of program students in a single age category was age 41 (15 respondents). Nonprogram students who typically enroll in a single course for specific technical training or occupational updating were more widely distributed throughout the age range. The highest concentration of nonprogram students in a single age category was age 48 (10 respondents).

Over half of the respondents (58 percent) were female while 42 percent were male. Program students were predominately at 65 percent while nonprogram students split evenly 50/50 between male and female.

Employment Status

Fifty-three percent of the respondents were employed full-time in a field related to their coursework. Another 12 percent were employed full time but in a field unrelated to their coursework. Nineteen percent were employed part time with two-thirds of that group in a related field related to coursework. Of the unemployed total of 16 percent, half (8 percent) were full-time students and 5 percent were seeking employment while 2.5 percent were unemployed and not seeking employment.

Employment Profile of Adult Students



Source: FVTC Adult Student Survey, 1991

Chart 33

Nonprogram students were twice as likely as program students to be employed full time in a related field. Slightly over one in every three program students surveyed were employed full time in a related field compared to two of three foı nonprogram students. In terms of full-time employment in an unrelated field, the tally was evenly split for program and nonprogram students. Both groups demonstrate a high degree of full-time employment (related and unrelated to field of study). Eighty percent of the nonprogram students were employed full time and nearly half (48 percent) of the program students. It is no secret that juggling school and work commitments is a reality for adult students age 40 and over.

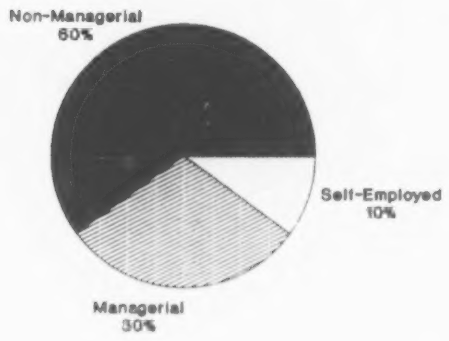
Program students have a higher incidence of working part time. One in every four program students works part time with two-thirds working in a related field. The vast majority of full-time students are, not surprisingly, program students (94 percent) with a few people considering themselves unemployed (10 percent) and looking for work (6 percent). Only 1 percent of the total program and nonprogram students were retired.

Type of Employment: Managerial, Nonmanagerial, or Self-Employed

Sixty percent of the older adult students responding to this question were employed in nonmanagerial positions while 30 percent were managerial and 10 percent self-employed. There was a near 50/50 split on nonmanagerial and self-employed status for both program and nonprogram students. Nearly three out of four managerial workers were nonprogram students.

It is significant to note that one-third of the total 200 adult students in the survey did not respond to this question. Only half of that number can be accounted for as not applicable based on their current employment status. Others may have benefited from further clarification of the terms managerial and nonmanagerial.

Type of Job: Employed Adult Students



Source: FVTC Adult Student Survey, 1991

Chart 34

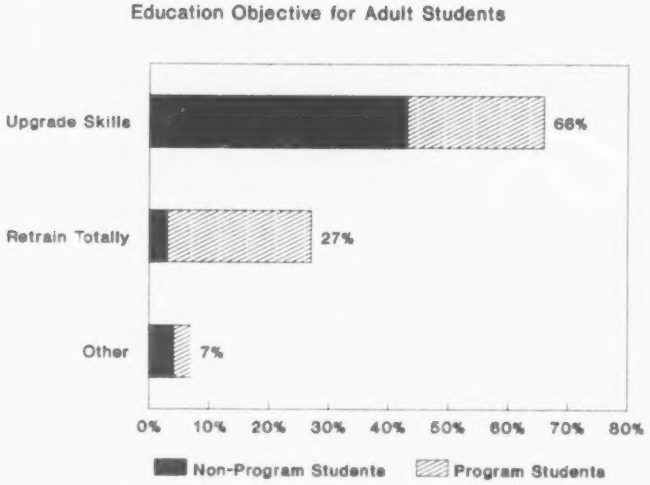
Summary Profile of Older Adult Students

The typical older student is likely to be an employed female in her early 40s with an even greater likelihood of this profile among program students. Men are more likely to be nonprogram students in their mid 40s and employed full time.

Survey Findings

Reasons for Attending Technical College

Two-thirds of the adult students returned to school to upgrade their skills while most of the remaining one-third sought total retraining in a new career. Program students were quite evenly split between upgrading and total retraining as their main objective. However, 87 percent of the respondents citing retraining as an objective were program students. Those older students citing upgrading as their educational objective were twice as likely to be nonprogram students. Eighty-five percent of the nonprogram students enrolled in college to upgrade their skills.



Source: FVTC Adult Student Survey, 1991

Chart 35

The appeal of upgrading skills for the older segment of the work force indicates the opportunity for technical education at less than a full program level. Certificate packages of program courses directly marketed to adults employed in the field of study would appear to be a popular approach. It may be advantageous to offer multiple tracks of certificates (introductory to advanced) which in combination could equal a program degree at a future date. Above all, creative and flexible educational options are needed to attract a greater percentage of the older age group.

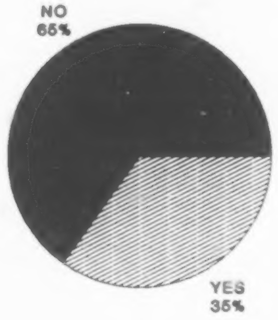
Role of Life Changes in Educational Pursuit

The finding of this question contradicts most of the adult education literature and common perceptions about older students. For 65 percent of those surveyed, there was NOT a change in their life, such as a crisis, which triggered their desire to enroll in technical education. For nonprogram students, this jumps to 75 percent. It appears that most of the focus and study of older students has been devoted to the 35 percent who do experience a life change to trigger educational pursuit. Program students were about evenly split on this question.

With this response in mind, college's need to take a close look at their service structure. Are services organized with only the crisis student in mind? Does the college make such overt efforts to "outreach" the older student in crisis, that the noncrisis adult feels unwelcome. Has funding availability made us lose sight of a significant customer who may be receiving an undesirable message? Chances are that the responses to these questions will be mixed depending upon who is asked. Colleges may not consciously or directly send this message to adults but their social service type programs may not be balanced with a direct and positive message to mid-life adults.

This finding certainly means that college's walk a fine line because it is vitally important to serve the older adult in crisis. It may be worth exploring methods to appeal to the noncrisis adult and the adult at risk of crisis with the same positive image and message that is effectively reaching a portion of the older adult population. The older adult experiencing a change may be more likely to self-identify with their positive aspirations than feel comfortable presenting their negative situation. The quality college will eventually deal with the negative situation but the individual is allowed to present themselves in the context of their dreams--not their past or current problem. With this understanding, programs with the label of "displaced" or "dislocated" may benefit from a reconsidered image to better serve their intended customer although their service may essentially remain unchanged.

Did Life Change Trigger Enrollment of Adults?



Source: FVTC Adult Student Survey, 1991

Chart 36

Common Changes Which Impact the Pursuit of Vocational Education

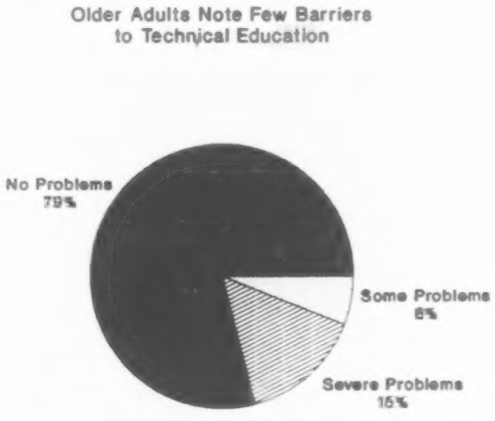
For those older students who were motivated to attend college because of a life change, the specific changes are quite dispersed and even difficult to pin down. The highest percentage (19 percent) cited changes in responsibilities at work which may not necessarily be a crisis. The following list displays the identified changes:

19% - Changes in responsibilities at work
16% - Other events
13% - Change in family responsibilities
12% - Loss of job
9% - Divorce or death of spouse
7% - Illness or injury

It may be interesting to pursue the "other events" category or even to build up to this question in another way to validate this finding. There may be some way to historically refresh the respondent's memory in order that less dramatic but actual triggers could be more readily and specifically identified for accurate customer profiles. However, the observations in the survey indicate that the greatest trigger is the knowledge that job security means continuous skills updating and development. For many, education is a proactive measure to prevent an undesirable change in their lives.

Situational and Dispositional Barriers Which Hamper Educational Pursuits

The adult students surveyed were asked to rate the degree to which ten commonly cited barriers were a problem for them as an individual. In aggregate, the "not a problem" category averaged 79 percent for all ten barriers. Program students were more likely to encounter barriers compared to nonprogram students with four out of five responses in the "very much a problem" category registered by program students. Fifteen percent of the total responses indicated some problems with three-quarters of the responses from program students.



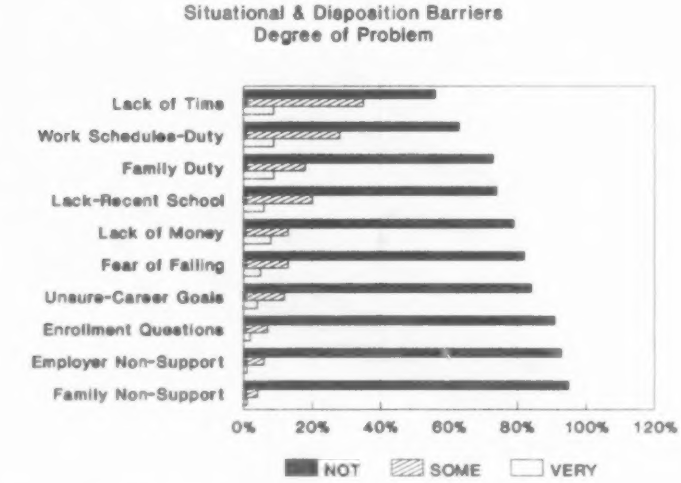
Source: FVTC Adult Student Survey, 1991

Chart 37

Specific Barriers to Enrollment: Degree of Problem

The most significant barrier was lack of time to pursue education (44 percent = severe/some problem). This was followed by the reasons for lack of time to include work (37 percent = severe/some problem) and family (27 percent = severe/some problem) responsibilities. About a quarter had some degree of problem or hesitation with their lack of recent school experience or formal education. Lack of financial resources presented some problem for about one in five respondents.

A few respondents perceived barriers in the less tangible areas related to their own fears or uncertainties. Fear of failing in education created some problems for 18 percent. The lack of clear career or education goals was a barrier for 16 percent and 9 percent had difficulty with enrollment procedures, essentially not knowing how to begin. It seems very evident from the responses that employers and families are viewed as supporters of adults in educational endeavors.



Source: FVTC Adult Student Survey, 1991

Chart 38

Table 15

Situational & Disposition Barriers
Degree of Problem

	NOT	SOME	VERY
Lack of Time	56%	35%	9%
Work Schedules-Duties	63%	28%	9%
Family Duties	73%	18%	9%
Lack of Recent School	74%	20%	6%
Lack of Money	79%	13%	8%
Fear of Failing	82%	13%	5%
Unsure Career Goals	84%	12%	4%
Enrollment Questions	91%	7%	2%
Employer Non-Support	93%	6%	1%
Family Non-Support	95%	4%	1%

Source: FVTC Adult Student Survey, 1991

Individual Comments

Twenty-one survey respondents added comments to stress their concern about certain problems which created barriers to enrollment. About one-third of these comments had to do with lack of knowledge regarding the availability of information or who to call.

It appears that they felt they need for more information to even begin asking questions and initiating the enrollment process. The potential adult student wants to present themselves as knowledgeable but may not feel comfortable asking the questions which will begin the knowledge development process.

Once into the system, many encountered difficulty in the counseling system. This service was expected to be helpful and expeditious in advising on courses. Oftentimes, it proved the opposite. The testing system was noted as a problem for a few.

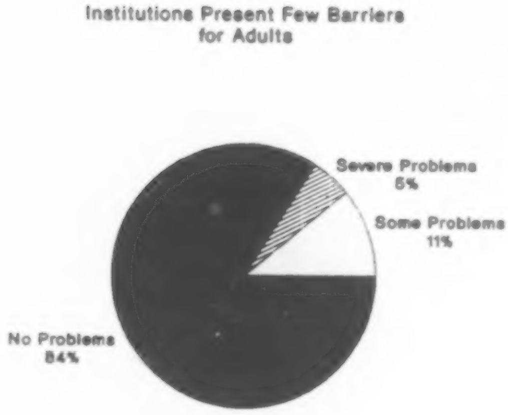
Some respondents had apprehensive feeling about enrolling in school at their age. "Is this worth it at my age" queried one adult student. Coupled with age, some had to deal with physical limitations such as hearing loss. Confidence levels were noted as a concern as well as being accepted into the program. The literature supports this nature of response for adults.

The scheduling difficulties of this age group was again highlighted by respondents. The realities of access in both the timing and structure of services to this age group is critical for college's who want to appeal to the employed adult population.

Institutional Barriers Experienced by Older Students

Only 15 percent of the responses indicated some kind of obstacle to education was created by the college or its procedures. Those with problems are more likely to be program students. The building layout of the campus was noted as a problem in about one-quarter of the responses. This is frequently an initial problem for new students which diminishes over time. It may have appeared as more of a problem if nonstudents had been interviewed. Similarly, waiting lists and few evening and weekend classes is not a significant problem for those older students in the system. They may, however, prohibit many others from even considering upgrading their skills.

Students who have become familiar with the enrollment and testing process view it as a minimal barrier. This kind of information is important to communicate to other older nonstudents to reduce feelings of anxiety. This observation is based on comments from the focus group activity with older students who expressed that their needs and dreams overrode their fears of the process. For people with unclear career goals, the threat of the process may serve as a reasonable excuse not to pursuit further education.



Source: FVTC Adult Student Survey, 1991

Chart 39

Table 16

Institutional Barriers

	NOT	SOME	VERY
Building Layout	74%	19%	7%
Waiting Lists	77%	13%	10%
Lack of Evening Courses	82%	13%	5%
Enrollment Process	86%	10%	4%
Testing Process	91%	7%	2%
Lack of Weekend Classes	92%	6%	2%

Source: FVTC Adult Student Survey, 1991

Individual Comments on Institutional Barriers

About twice as many respondents (56) had comments on this question compared to the earlier request for comments. This represents about one-quarter of the survey pool. It appears that people may have been "warming up" to the line of questioning because the comments echo those previously stated. This was also an opportunity to air general discontent with institutional systems which create hassles that may lead to retention problems.

The comments received related to the following general categories:

Dysfunctional Systems	20
Scheduling Problems	11
Counseling Issues	7
Teaching Methods	6
Inconvenient Location of Classes	5
GOAL Enrollment	3
Other	4
Total Comments	56

The highest area of concern included very specific and diversified comments ranging from class cancellations to transfer of credits. Other areas included the book ordering system, cost of books, need to update the library and equipment, and the information processes throughout the College.

Summary Statement on Barriers

The responses to the question of barriers underscores the importance of access, convenience, and flexibility in the delivery of educational services to older adults. The work and family demands of the aging work force are such that technical colleges need to tailor their courses to the time constraints of the adult. Although distance education type courses which offer independent student are desirable, the need for group contact in a traditional setting is also important. This is especially true for those who have not participated in skills updating for many years. Certainly, educational offerings in the evening and on weekends must be as comprehensive as the traditional daytime schedule.

Colleges may need to be creative in working with employers or groups of employers to enroll nonmanagerial workers in classes during work hours. It may be that employer support needs to be fostered to the next level of commitment beyond tuition or moral support.

Adults become frustrated when the systems they need to use as a student do not function up to their expectations. Younger students may also experience frustration but be less inclined to voice their feelings. Similarly, older adult students may hesitate to register complaints but may readily share their views with co-workers, employers, and other adults in the community. Word of mouth can be the best or worst public relations tool for colleges.

Technical colleges may refer to older adult customers as very demanding because the traditional student is more accustomed to "going with the flow." However, quality colleges need to listen to their customers to engage in continuous improvement. As the work force and student population ages, the dysfunctions of the systems in the college may cease to be isolated complaints but major issues for systems reforms. Voiced expectations are clues to quality service delivery which require serious and proactive attention.

Ideas for Reaching Older Adults

The most effective method of reaching older students with educational information is through newspaper advertising (66 percent). Employer supplied information is viewed as effective by the majority of respondents (55 percent). On-campus seminars are slightly more popular (47 percent) than off-campus seminars.

The message is loud and clear that the college needs to get its information out to where the potential older student will notice it--at home or at the work place. Adults do not conveniently congregate in group settings like high school students to receive educational information. The most comparable environment is the work place which presents unique challenges to colleges in information dissemination in a personalized way. The best part is that many employers are slowly realizing the importance of retraining and upgrading their work force.

Effective Methods to Reach Older Students

	Program Students	Non-Program Students	Percent "Yes"
Newspaper Ads	35%	31%	66%
Employer Information	24%	31%	55%
On-Campus Seminars	27%	20%	47%
Off-Campus Seminars	22%	18%	40%

Source: FVTC Adult Student Survey, 1991

Chart 40

Many may be willing to work with the college in experimenting with outreach/recruitment techniques.

The investment on the part of the college needs to equal that devoted to recruiting high school students. This recruitment activity is really over and above what the college normally considers business and industry contracting (economic development). It is a broader-based, individualized effort aimed at the members of the aging work force and the community.

As many researchers have noted, marketing to the employed adult population needs to take on a unique flavor which answers the key concerns of the older adult.

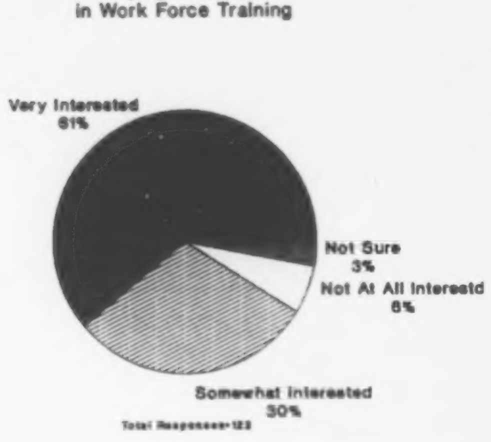
Employer Role in Work Force Education

Fewer than half of the 200 respondents noted employer practices which assisted in educational pursuits. Leading the list was tuition aid for coursework provided for 48 percent of those surveyed. Nearly two-thirds of those with tuition aid were nonprogram students. This pattern of employer practices for nonprogram students was more evident for all noted employer practices (see related chart). Flexible schedules to accommodate classes as well as training during work hours was experienced by slightly over a third of the respondents, respectively. This proportion also received education and training information at the work place and promotion opportunities upon completion of training. Slightly over a quarter of the respondents had training facilities on site at the work place or professional growth plans for individual employees.

Employer practices do serve to influence work force participation in education and training. Adult students observe these practices to not only encourage but mandate training. Job security often depends on upgrading. Some employers provide incentives, bonuses, and budget specific funds for staff training. Practices vary for nonmanagerial workers from employers who restrict training for management only to those who pay hourly workers to attend training.

Above all, employer practices are noticed and make a positive difference in older adult participation in training. Of those surveyed who specifically responded to this question (61 percent), three-quarters noted that employer practices were influential in deciding to attend technical college. Nonprogram students constituted 60 percent of those who were influenced by employer practices.

Over 90 percent of the responding adult students view their employers as interested in the educational pursuits of their work force. Sixty-one percent rate their employers as "very interested" with nearly two-thirds of this group being nonprogram students. Another 30 percent felt their employers were somewhat interested in the training of their work force. Roughly 6 percent noted a lack of interest in training on the part of their employer.



Source: FVTC Adult Student Survey, 1991

Chart 41

Two-thirds of those responding predict that adults at their workplace will be expected to upgrade skills within the next two to five years. Of the remaining third, over half answered they did not anticipate a training expectation and nearly half were simply not sure of the future.

Individual comments on the reasons for this prediction were quite consistent. Those respondents who expect company involved in upgrading their work force observe that employers require training to keep up to date. Many perceive changes in society and new technology which employers need to keep current on to compete. Licensing stipulations for some occupations include training mandates for renewal. Some specific quotations are as follows:

> "Things are always changing, you can never learn it all."
>
> "There's an unwritten code that you continue your education."
>
> "Steady ongoing process . . . need to keep up . . . with changes in technology."

Some respondents noted that training is not necessarily expected but advancement is restricted without it. One person noted that since they had just completed upgrading it was not expected again in the near future. For small businesses and certain types of jobs, the certainty of job upgrading was not easy to predict.

On the negative side, some employers would not be expected to be providing upgrading unless required by law. Some comments noted lack of concern for individual employees including that the employer did not desire "intelligent" employees. For some employers, training is an option not viewed as an expectation. Reimbursement may exist but expectations to upgrade are not stressed.

Certainly, the majority of the adult students in the work force plan for training to be part of their future. Technical colleges are the optional training resource and need to engage in proactive planning to adequately meet the diverse training needs of this growing population. The challenges are evident in direct messages from the group and indirect opportunities to advance the participation of more employers and individual older adult students through promotional efforts.

SUMMARY AND CONCLUSIONS

6. Summary and Conclusions

As the Wisconsin work force ages, Wisconsin technical colleges can expect a greater demand for their vocational education services. This growth is, however, dependent on the activity of technical colleges in promoting and grooming its services to the adult work force. The guidelines for these activities need further study through experimentation and observation.

This study appears to be a pioneering effort in exploring the vocational education implications of an aging work force which compliments an emerging genre of studies on the education needs of adult workers. In addition to collecting current wisdom on the subject, this study hopes to make a significant contribution in highlighting the complex nature of the issue. This complexity is fueled by a myriad of labels and phrases most of which are associated with erroneous ideas about who the aging work force is in the future.

This is a hybrid issue which skims across the fields of education, labor, aging, government, and business creating the need for new collaborations and systems of cross-communication.

Conclusions

The overall conclusions of this study are outlined below as both observations to learn from and challenges for future development.

1. The words "aging work force," "older worker," and "lifelong learning" have multiple meanings which obstruct productive discussion about future systems' reform.
2. The aging of the state and national work force is not a need based problem waiting for reactive solutions; it is a societal phenomenon in need of common understanding and proactive partnerships to shape a responsive education and employment system.
3. The threat of skills obsolescence looms as the greatest single issue of an aging work force. However, the lack of employer practices to assess current skills levels, project future skill needs, or develop professional growth plans make it difficult to know the scope of the issue.
4. "Training" is another term with multiple meanings and needs to be clearly defined in discussions and surveys with employers and adults.
5. More older adults in the work force need to know about the future demands for constant education. Older workers must be better informed of the importance of continuing education to their continued successful employment. When older workers become responsible for new technology, there is usually a need for retraining. With constant increases in new technology and the number of older workers, there will be a growing demand for retraining and upskilling. Technical

colleges need to be prepared for this growing market, provide additional outreach services to reach these employed adults and have in place the kind of flexible services and programs to accommodate this adult customer.

6. Current employment programs sponsored by the Department of Labor and Administration on Aging for disadvantaged mature workers should be viewed as beacons of caution and the results of inaction in skills preparation. A desirable future would not be the expanded need for these crisis-oriented programs but rather a prevention orientation on the part of employers, individual employees, government, and education.

7. Employers have not proved to be the best judges of skill levels in their work force or best predictors of future skill needs. However, smaller employers may be in a better position than larger companies in assessing skill levels. Predictions are elusive for all. This may render studies based on employer perceptions suspect.

8. Technical colleges need a better understanding of their adult customer from a fresh perspective which could positively impact their image and marketing.

9. There is a tendency throughout the literature to examine "the work force" as a singular commodity when it is obviously multi-faceted. This practice makes it difficult to nail down specifics for action at the technical college level.

10. Ageism in the workplace and education (often indirect, probably innocent, and manifested in omission) still exists to limit potential opportunities and skew perspectives. All partners and individuals need greater sensitivity to age related biases.

11. Employers must develop a more futuristic perspective on the composition of their work force in the next decade and beyond. Workers with relevant skills will be absolutely critical to maintaining a competitive business economy. Continued training and upskilling will need to be part of all employees' work cycles; no longer will we be able to get by on our experience alone.

12. Employers need to develop a more formalized approach to employee training, including assessment of employee skill levels as a basis for training. This includes basic skills. Time after time the VTAE system begins a technical training program for an employer (i.e., statistical process control) only to find that basic skills (i.e., math) aren't at a level for the employees to successfully complete the training and remediation is often then prescribed. Additionally, training plans should be developed as well thought out, needs-based, planned approach to employee development versus a shotgun approach.

Recommendations

The following recommendations are made based on the data collected in the survey and from the corresponding review of literature.

1. The technical colleges should continue to build strong, on-going relationships with the business sector, putting more focus on long-range training plans and assessment. The attitude that comes through in the survey is not a very proactive stance, but rather one of "don't call us, we'll call you." This implies that these employers know

what they need and when they need it, but related studies don't support this level of employer awareness. There is a sense that companies don't see the need to plan ahead with the VTAE system, but rather call on this system to come to the rescue, so to speak, when they are in a crisis mode. This puts the VTAE system constantly in a reactive mode.

2. The technical colleges seem to be very successful in meeting the training needs of mid-size to large companies. However, since small businesses represent upwards of two-thirds of all Wisconsin employers, a new service delivery approach should be developed and implemented by the VTAE system in addressing this huge faction of the state's work force and economy.

3. Age-related information needs to be included in technical college reports of enrollments on a local and state level to identify trends.

4. Technical colleges would benefit from more state-wide forums on developments in older adult services, programs, and initiatives.

5. Technical colleges are ideal agents to champion the advancement of understanding of skills obsolescence particularly methods for assessment of skills and intervention strategies.

6. Applications of process management techniques to select technical college systems may serve to further clarify both improvements needs and areas of progress in monitoring education services to older adult students.

7. Focus groups of adult students should be conducted on a broad scale to examine all aspects of education delivery systems in depth.

8. Focus groups of nonenrolled adults would provide useful information for reading the unserved market.

9. Other VTAE districts should consider replicating this or similar types of studies in their respective regions of the state if they are to maintain a proactive, forward-looking approach to serving their local employment bases.

10. The Wisconsin Board of VTAE state office should disseminate future state and national reports on the aging work force issue to all VTAE districts.

REFERENCES

References

America's Choice: High Skills or Low Wages. The Report of the Commission on the Skills of the American Workforce, 1990.

Aslanian, Carol. "What Triggers Adult Participation in Higher Education?" Equity and Excellence. 24 (Fall 1989): 5-8.

Barker, Joel A. Discovering the Future: The Power of Paradigms. Workshop at Fox Valley Technical College, May 24, 1990.

Best, Fred and Ray Eberhard. "Education for the 'Era of the Adult'." The Futurist 24 (May/June 1990): 23-28.

Blocklyn, Paul L. "Consensus on the Aging Workforce." Personnel 64 (Aug. 1987): 16-19.

"Business and Older Workers: Current Perceptions and New Directions for the 1990's." AARP Publication, no. D13827. Washington: n.p., 1989.

Carnevale, Anthony P. Train America's Workforce. Alexandria, Virginia: American Society for Training and Development, 1990.

Crone, Theodore M. "The Aging of America: Impacts on the Marketplace and Workplace." Business Review (May/June 1990): 3-8.

Cross, K. Patricia. Adults as Learners. San Francisco: Jossey-Bass, 1988.

Davenport, Lawrence F. "The Role of the Community College in Meeting America's Future Labor Force Needs." American Association of Community and Junior Colleges Journal 59 (Feb./Mar. 1989): 23-27.

Dole, Elizabeth. "America Needs Its Older Workers." Aging Network News, Oct. 1989: 1-4.

Doucette, Don and Ventura-Merkel, Catherine. Community College Programs for Older Adults: A Status Report. A Joint Project of the League for Innovation in the Community College and the American Association of Retired Persons, March 1991.

Dychtwald, Ken, Ph.D. Age Wave: The Challenges and Opportunities of an Aging America. Los Angeles: Jeremy P. Tarcher, Inc., 1989.

Eskey, Kenneth. "Elderly Workers Might Save the Day." The Post-Crescent, 20 March 1990: C-4.

Eurich, Nell P., "Prologue: The Challenge of Change," *The Learning Industry: Education for Adult Workers*, The Carnegie Foundation for the Advancement of Teaching, 1990.

Governor's Commission for a Quality Workforce. *A World Class Workforce for Wisconsin*. (Madison, WI: Wisconsin Board of Vocational, Technical and Adult Education) April 1991.

Johnston, William B. and Packer, Arnold H. *Workforce 2000: Work and Workers for 21st Century*. Indianapolis, IN: Hudson Institute, 1987.

Miller, William H., "A New Perspective for Tomorrow's Workforce." *Industry Week* 240 (May 6, 1991): 7-11.

Moloney, Thomas W. and Paul, Barbara. *Enabling Older Americans to Work*. New York: Harkness House, 1989.

Morris, Robert and Caro, Francis G. *Employment Training for Mature Adults: An Important New Direction for Higher Education*. Boston: Gerontology Institute, University of Massachusetts, 1991.

National Committee on Careers for Older Americans. *Older Americans: An Untapped Resource*. N.p.: Academy for Educational Development, 1979.

Rosen, Benson, and Thomas H. Jerdee. "Investing in the Older Worker." *Training and Development* 43 (Apr. 1989): 70-73.

Schesch, Adam. *Workplace Reforms: Employer Practices That Will Increase and Prolong Productive Older Worker Employment*. Madison, Wisconsin: Wisconsin Department of Health and Social Services Bureau on Aging, 1988.

Smith, Thomas J., and Carolyn Trist. *Training and Educating the Work Force in the Nineties: The Rationale for Public-Private Collaboration*. Columbus: Ohio State University Center on Education and Training for Employment, 1988.

Stenson, Pat. "Need Exists for Those Older Workers." *The Post-Crescent*, 8 June 1990: B-2.

Taylor, Steve. "The Aging of America." *Training and Development Journal* 43 (Oct. 1989): 44-50.

"The Age Wave: An Interview with Ken Dychtwald." *Training & Development Journal* 44 (Feb. 1990): 22-30.

APPENDICES

1. Employer Survey Form
2. Adult Student Survey Form
3. Focus Group Questions

Appendix A

Employer Survey Form

FINAL 3/8/91

Employers Survey
Aging Workforce Project

ASK TO SPEAK TO THE PERSON RESPONSIBLE FOR EMPLOYEE TRAINING AND EDUCATION OR CONTACT PERSON NAMED ON THE LIST OF COMPANIES.

Hi, this is ____ from Fox Valley Technical College.

A. Are you the person responsible for employee education and training at your company?

Yes-----------1 CONTINUE
No------------2 ASK TO SPEAK TO THAT PERSON

B. We're conducting a brief survey on employee participation in education and training. Would you have a few minutes to answer some questions about that?

Yes-----------1 CONTINUE
No------------2 OFFER TO RESCHEDULE AT CONVENIENT TIME

I'd like to begin by asking you some questions about the age of your workforce and participation in training opportunities.

1. Into what range does the average age of your workforce fall?

Under 25----------1
25-30-------------2
30-35-------------3
35-40-------------4
40-45-------------5
Over 45-----------6
Don't Know--------7

2. Approximately what percentage of your workforce is over age 40?

____

3. Over the next 5 years, would you expect that the average age of your workforce will increase, decrease or stay the same?

Increase------------1
Stay the same-------2
Decrease------------3
Don't know----------4 → DO NOT ASK QUESTION 3A.

3a. Why do you say that? ______________________________

____

4. On a 1-5 scale with 5 being very difficult and 1 being not at all difficult, how difficult it is for your company to motivate employees to participate in training and education?

Not at all Difficult Very Difficult

1 2 3 4 5

5. Thinking of your employees over age 40, how would you rate the difficulty of motivating them to participate in training and education, using the same 1-5 scale?

Not at all Difficult Very Difficult

1 2 3 4 5

6. What do you think is the main thing that prevents employees over age 40 from participating in training?

____

____

7. What do you think is the main thing that prevents employees under age 40 from participating?

____

____

8. Which of the following does your company do to encourage employee participation in training and education? Do you.......READ OPTIONS AND CIRCLE ALL THAT APPLY.

a. Offer tuition-aid for coursework---------------1
b. Maintain an on-site training lab or facility---1
c. Offer training during work hours---------------1
d. Develop professional growth plans--------------1
e. Distribute information about education
    & training opportunities---------------------1
f. Allow flexible scheduling of hours-------------1
g. Offer promotion opportunities for employees
    who complete training-----------------------1

8a. Is there anything else your company does to encourage participation in training?

____

____

9. Sometimes employees have to overcome barriers before they can enroll in training and formal education. For most employees over age 40, would you say _______ are very, somewhat or not at all barriers to enrolling?

	Very	Some	Not
a. Work schedules & responsibilities	1	2	3
b. Family responsibilities	1	2	3
c. Fear of failing	1	2	3
d. Lack of recent experience with formal education	1	2	3
e. Lack of time	1	2	3
f. Lack of interest	1	2	3
g. Lack of family or spouse support	1	2	3
h. Lack of financial resources	1	2	3
i. Unsure of career or educational goals	1	2	3
j. Lack of employer support	1	2	3
k. Not knowing who to call to enroll	1	2	3

10. For employees over the age of 40, how would you rate their need for training in the areas I'm going to list for you? Using a 1-5 scale with 5 being very much in need of training and 1 being not at all in need of training, how would you rate their need for training in ______?

		Not at all				Very
a.	Learning how to learn	1	2	3	4	5
b.	Listening	1	2	3	4	5
c.	Oral communication	1	2	3	4	5
d.	Problem-solving	1	2	3	4	5
e.	Critical thinking	1	2	3	4	5
f.	Motivation and goal setting	1	2	3	4	5
g.	Teamwork	1	2	3	4	5
h.	Leadership	1	2	3	4	5
i.	Computer literacy	1	2	3	4	5
j.	Computer applications	1	2	3	4	5
k.	Reading	1	2	3	4	5
l.	Writing	1	2	3	4	5
m.	Math	1	2	3	4	5

11. Overall, when you compare the training needs of your employees over age 40 to those of employees under 40, would you say the needs of these two groups are very much, somewhat or not at all alike?

Very much alike----------1
Somewhat alike-----------2
Not at all alike---------3

11a. Why do you say that?

12. Is there any type of training not yet mentioned which workers over 40 seem to need more than younger workers?

13. How has your company used the local technical college for training? Have you ..... READ EACH OPTION AND CIRCLE ALL THAT THEY HAVE USED.

a. Contracted for on-site training -------------------1
b. Sent employees there for courses-------------------1
c. Used the facilities--------------------------------1
d. Distributed course information to employees--------1
e. Used it in some other way for training-------------1
   └How?: ______________________________

f. Not used at all------------------------------------1

14. I'd like to ask you now about some technical college activities and whether you think they would help your organization increase employee participation in training. Would _______ be very, somewhat or not at all helpful to your organization?

		Very	Some	Not
a.	Receiving more copies of mailings with news of technical college offerings---	1	2	3
b.	Participating in an open house at the college for training information------------------	1	2	3
c.	Meeting technical college staff at your company---------	1	2	3
d.	Receiving a directory of who to call at the technical college for certain kinds of training--	1	2	3
e.	Setting up an education information center within your company, which may include videos and printed materials about training opportunities------------------	1	2	3

f.	Convenient registration for employees on-site at your company instead of at the technical college------------	1	2	3
g.	Offering one-on-one educational information to employees at your worksite----------------------------------	1	2	3
h.	Offering courses at your worksite------	1	2	3

15. Is there some other way that you would like the technical college to help increase your employees' participation in training?

____

____

Thanks very much for your views. Now just a few questions for classification--

16. Over the next 5 years, would you expect the size of your workforce to increase, decrease or stay the same?

Increase----------1
Stay the same-----2
Decrease----------3
Not sure----------4

Respondent name ______________________________________

Respondent position______________________________________

Company____

Interviewer_________________ Date _________________

17. CODE TYPE OF COMPANY FROM PRINTOUT:

Business service------------------1
Health service--------------------2
Construction company--------------3
Durable goods manufacturer--------4
Non-durable goods manufacturer---5

18. CODE SIZE OF COMPANY FROM PRINTOUT:

Small-----------1
Medium----------2
Large-----------3

Appendix B

Adult Student Survey Form

FINAL 3/06/91

Adult Student Survey
Aging Workforce Project

ASK TO SPEAK TO THE PERSON ON THE LIST.

Hi, this is _____from Fox Valley Technical College. We're conducting a brief survey on adults who enroll for training offered through the technical college. Would you have a few minutes to answer some questions about that?

1. Our records show that you have enrolled at Fox Valley Technical College within the past two years. Did you enroll to train for a completely new career, to upgrade your skills within your present career, or for some other reason?

Retrain completely--------------1
Upgrade skills------------------2
Some other reason---------------3

Specify: ____

2. Sometimes people enroll for training after a change has occurred in their lives. Was there a change in your life that triggered you to enroll?

Yes-----------1	IF YES, ASK 2A.
No------------2	GO TO PAGE 2
Not sure------3	GO TO PAGE 2

2a. Which--if any--of the following changes triggered you to enroll in Fox Valley Technical College?

a. Change in family responsibilities---------1
b. Loss of job-------------------------------1
c. Change in responsibilities at work--------1
d. Illness or injury-------------------------1
e. Divorce or death of spouse----------------1
f. Some other event--------------------------1

Specify: ____

3. Could you tell me if the following things were very, somewhat or not at all a problem for you in enrolling?

	VERY	SOME	NOT
a. Work schedules & responsibilites	1	2	3
b. Family responsibilities	1	2	3
c. Fear of failing	1	2	3
d. Lack of recent experience with formal education	1	2	3
e. Lack of time	1	2	3
f. Lack of family or spouse support	1	2	3
g. Lack of financial resources	1	2	3
h. Unsure of career or educational goals	1	2	3
i. Lack of employer support	1	2	3
j. Not knowing who to call to enroll	1	2	3

4. Were there any other problems you had to overcome in order to enroll?

____

____

5. Could you tell me if the following things were very, somewhat or not at all a barrier for you in enrolling at Fox Valley Technical College?

	Very	Some	Not
a. The process of enrolling	1	2	3
b. Waiting lists	1	2	3
c. Layout of the buildings	1	2	3
d. Testing procedures	1	2	3
e. Lack of evening courses	1	2	3
f. Lack of weekend courses	1	2	3

6. Were there any other barriers posed by the way the college operates that you had to overcome?

____

____

____

7. When you were considering attending technical college, would you have...READ OPTIONS AND CIRCLE RESPONSE.

	Yes	No	Not Sure
a. Come to off-campus informational seminars held for adults	1	2	3
b. Come to on-campus informational seminars held for adults	1	2	3
c. Responded to information about technical college from your employer	1	2	3
d. Responded to information in technical college advertising	1	2	3

8. Which best describes your employment status? Are you...

Employed full-time in a field related to your courses------------------------------1 CONTINUE
Employed part-time in a field related to your your courses------------------------2 CONTINUE

Employed full-time in a field unrelated to your courses------------------------------3 END INTERVIEW
Employed part-time in a field unrelated to your courses------------------------------4 END INTERVIEW

Full-time student and not seeking employment- 5 END INTERVIEW
Unemployed and not seeking employment now---- 6 END INTERVIEW
Unemployed and seeking employment------------- 7 END INTERVIEW
Retired--8 END INTERVIEW
DO NOT READ-REFUSED----------------------------9 END INTERVIEW

9. Would you describe your job as managerial, non-managerial or self-employed?

Managerial--------1
Non-managerial----2
Self-employed-----3 END INTERVIEW

10. In positions like yours, which of the following does your employer offer?... READ OPTIONS AND CIRCLE

a. Tuition-aid for coursework---------------------1
b. A training facility in the workplace-----------1
c. Training during work hours---------------------1
d. Professional growth plans for employees--------1
e. Information about education & training opportunities-----------------------------------1
f. Flexible scheduling of work hours--------------1
g. Promotion opportunities for employees who complete training------------------------1

10A. Is there anything else your employer does to encourage participation in training?

____

____

11. When deciding to attend a technical college, would you say that your company's practices were very, somewhat, or not at all influential?

Very-----------1
Somewhat-------2
Not at all-----3

12. Overall, would you describe your company as very, somewhat or not at all interested in seeing people in positions like yours pursue additional training?

Very-----------1
Somewhat-------2
Not at all-----3
Not sure-------4

13. Will you and other adults at your workplace be expected to upgrade your skills within the next 2-5 years?

Yes-------1
No--------2
Not sure--3

13a. Why do you say that? ____

____

____

14. CODE SEX OF RESPONDENT

Male-----------1
Female---------2

15. RECORD AGE: _____ (From Printout)

16. RECORD PROGRAM CODE: ___________________ (From Printout)

RECORD NAME: _______________________ PHONE NO _____________

Interviewer Initials: __________

Appendix C

Focus Group Questions

October 2, 1990

Employers--Focus Group Outline
Lifetime Planning Research Project/Aging Workforce

Awareness/Perception of Aging Workforce

1. Are you aware of the age distribution of the workforce at your company? What is the age distribution roughly?

2. How do you see the age distribution changing over the next 5-10 years?

3. What problems--if any--will an aging workforce present for your company? How concerned is your company with these problems?

4. What benefits--if any--do you see in an aging workforce at your company?

4a. What would be your definition of an "older worker?"

Training Initiatives/Types of Training for Older Workers

5. Does your company sponsor training or retraining specifically directed to older workers? What kinds? Mandatory or voluntary?

5a. Does your company restrict training/retraining for older workers in any way?

6. What kinds of training/retraining do older workers seem to need? Is basic skills training more or less needed by older workers versus younger workers?

7. In your company, do you see older workers participating in training to the same extent as younger workers? If not, why?

8. What do you think are the main motivating triggers for older workers to participate in training or retraining? How important is job security, enrichment, pay incentives?

9. What are the main barriers to older workers taking part in training/retraining? Do these differ from barriers faced by younger workers?

10. Is retraining older workers a problem for your company?

    a. If so, why?

    b. If not, to what do you attribute your success--any particular practices your recommend implementing or avoiding?

Effects of Training on Job Security for Older Workers

11. Has voluntary employee training been a factor in who is retained and who is laid-off in downsizing?

12. How common is "floating to retirement" meaning that marginally productive or inadequately skilled workers are allowed to work until retirement (essentially guaranteed a job without need for retraining due to longevity with the company or some other reason)?

13. Do you try to predict which jobs in your company will become obsolete?

    a. If so, are individuals in those jobs counseled as to long-range job security? Are these individuals more likely to be older workers?

14. Do you provide outplacement services for terminated workers? Are these workers more likely to be older workers?

    a. To what extent do outplacement or employability programs involve retraining the employee for another job versus assisting with a job search for a job like the one held?

    b. What is your opinion of this situation?

14a. Are you doing anything special to retain employees past the normal retirement age?

Use of FVTC as Training Resource

15. To what extent is your company using FVTC as a resource for training/retraining older and mature adult workers?

15a. How would you compare FVTC as a training provider to private sector providers? Ease of arranging training? Cost? Quality of training delivered?

16. How could FVTC training/retraining for older and mature adult workers be enhanced or improved?

Lifetime Development Initiatives

17. What types of FVTC initiatives would make it easier for your company to deliver training to your older/adult workers?

    a.) Marketing/Recruiting initiatives

    b.) Initiatives in up-front Student Services, e.g, registering, scheduling, academic advising/counseling

    c.) Initiatives in delivering courses/training, e.g., timing, format, location, degree credit programs

November 26, 1990

Focus Group--Adult Students
December 6, 1990

Motivating Triggers in Return to School

1. Why did you decide to return to school?

2. What--if any--role does your employer play in your pursuit of schooling?

    a. Did your (current or past) employer influence your initial decision?

    b. What level of support do you get from your current employer? (e.g., financial, emotional encouragement, etc)

Situational Barriers

3. Were there factors in your life situation that made it difficult to return to school? (e.g, financial, childcare, time, transportation, etc.)

4. Did your past experiences with education when you were younger make it easier or harder for you to return to school? Or did your past experiences have any bearing on your return at all?

Dispositional Barriers

5. When you returned, did you have to overcome any attitudes or feelings you had about enrolling in classes at an older than usual age? Please describe.

6. If you found out that you needed to take GOAL classes to get the basic skills to pursue credit courses, what would be your reaction?

Institutional Barriers

7. When you returned to school, was there anything about the way FVTC operates that made it hard for you?

8. Out of all the barriers we just discussed, which type (situational, dispositional, or institutional) presented the greatest hurdle for you in returning to school?

Information Resources

9. How did you get your information about opportunities to attend school at FVTC? About possible new careers?

10. Do you think promotion of educational opportunities/careers is effective at reaching adults like yourself?

Initiatives

11. How could promotion be improved?

12. How could services to you and others of your age group be improved?

SELECTED ANNOTATED BIBLIOGRAPHY

Selected Annotated Bibliography

America's Choice: High Skills or Low Wages. The Report of the Commission on the Skills of the American Workforce, 1990.

This landmark report focuses on the need for this nation to invest in its human resources, creating high performance work organizations and high skill levels to sustain them. If this does not occur, the country will continue to slide toward low skills and corresponding low wages. This study has been the cornerstone for many states and associations to focus on the worker preparedness issue as a key element of future economic and employment policy.

Best, Fred and Ray Eberhard. "Education for the 'Era of the Adult'." The Futurist 24 (May/June 1990): 23-28.

Education needs to transform itself from a strictly youth-oriented institution to one that also serves the needs of growing numbers of adults. Overviewed are the needs to address basic skills, serve more people, increase access and delivery options, diversify programs, and find new approaches.

Blocklyn, Paul L. "Consensus on the Aging Workforce." Personnel 64 (Aug. 1987): 16-19.

This article highlights the results of a 1987 study by Personnel magazine of how organizations are coping with the aging work force. Human resource managers nationwide provide their responses to this issue.

"Business and Older Workers: Current Perceptions and New Directions for the 1990's." AARP Publication, no. D13827. Washington: n.p., 1989.

This report includes a discussion of trends in the business climate and their impact on older workers, detailed research findings and their implications. AARP is emerging as a key focal point for the research and study of the aging work force issue.

Carnevale, Anthony P. Train America's Workforce. Alexandria, Virginia: American Society for Training and Development, 1990.

This special report from ASTD addresses the need to prepare the American work force to meet the world's new competitive standards. It takes the position that business organizations can leverage an investment in training into a competitive business advantage. ASTD has been involved in a series of studies on workplace skills and the changing needs of employers.

Dychtwald, Ken, Ph.D. Age Wave: The Challenges and Opportunities of an Aging America. Los Angeles: Jeremy P. Tarcher, Inc., 1989.

This is a comprehensive book on the aging phenomenon and the future demographic impact highlights: myths and stereotypes of aging; reworking work;

the mature marketplace; new leisure; and cyclic life patterns. The concept of cyclic vs. linear life patterns is of central significance to the issue of training the aging work force.

Eurich, Nell P., "Prologue: The Challenge of Change," The Learning Industry: Education for Adult Workers, The Carnegie Foundation for the Advancement of Teaching, 1990.

A superb and insightful analysis of the critical change issues related to future directions in educating adults in the work force. An extremely valuable study with "on-target," "straight-talk" on issues based on references from a variety of learning environments including industry and the military. The foreword by Ernest L. Bayer, President of the Carnegie Foundation for the Advancement of Teaching and the "Prologue: The Challenge of Change" by Dr. Eurich are required reading for all in adult education to plainly understand the scope and urgency of educating the nation's work force.

Johnston, William B. and Packer, Arnold H. Workforce 2000: Work and Workers for 21st Century. Indianapolis, IN: Hudson Institute, 1987.

A pivotal report on the U.S. work force and the future. The report was the product of a research project funded by the Department of Labor and incorporated as a mainstay in recent national conferences on the topic. The report includes valuable demographics and "six challenges" to rethink work force directions and impacts between now and the year 2000.

Moloney, Thomas W. and Paul, Barbara. Enabling Older Americans to Work. New York: Harkness House, 1989.

This booklet overviews our shrinking work force, why older Americans stop working, business attitudes and practices, and rethinking corporate policies to retain, retrain and recruit older workers.

Morris, Robert and Caro, Francis G. Employment Training for Mature Adults: An Important New Direction for Higher Education. Boston: Gerontology Institute, University of Massachusetts, 1991.

This dynamic paper overviews why the U.S. can expect increased labor force participation from mature adults, why greater emphasis on employment training is needed for this population, and why institutions of higher education have a major role to play in providing this training. Major components of an effective employment training program for this population are identified. This effort is the foundation of an initiative to organize key national institutions and state projects to address the issue of training an aging work force.

Rosen, Benson, and Thomas H. Jerdee. "Investing in the Older Worker." Training and Development 43 (Apr. 1989): 70-73.

With high attendance, low turnover and good morale, older workers may be best suited for continued training and development. This article looks at overcoming senior employee obsolescence through training strategies.

Schesch, Adam. Workplace Reforms: Employer Practices That Will Increase and Prolong Productive Older Worker Employment. Madison, Wisconsin: Wisconsin Department of Health and Social Services Bureau on Aging, 1988.

This document overviews the forces shaping workplace reforms, barriers to the employment of older workers, training needs of older workers and how training efforts could be improved.

Smith, Thomas J., and Carolyn Trist. Training and Educating the Work Force in the Nineties: The Rationale for Public-Private Collaboration. Columbus: Ohio State University Center on Education and Training for Employment, 1988.

This source overviews two potential large-scale responses that appear capable of coping with workplace change and the labor supply--the "de-skilling" of work or the "upskilling" of employees. Implications for education and training are covered.

"The Age Wave: An Interview with Ken Dychtwald." Training & Development Journal 44 (Feb. 1990): 22-30.

This article, in an interview format, highlights how the "mighty waters of the age wave" will soon sweep through the work force. Predictions of older workers as a vital human resource are substantiated. The impact of the age wave "boomers" on virtually every aspect of American society is addressed.

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7/29/91

"As the average age of American workers climbs toward 40, the nation must insure that its work force does not lose its adaptability and willingness to learn."

Workforce 2000